RAILWAY AGE

MARCH 4, 1950

Wanted For Binding

University of Detroit Library

No other bearing with so much to offer!

1 HARD ON THE OUTSIDE —TOUGH ON THE INSIDE! Rolls and races of Timken bearings are made of the finest steel ever developed for railroad roller bearings—our own Timken fine alloy steel. Case-carburized for a wear-resistant surface. Tough inner core to withstand shock.

2 No roll skidding or skewing! Cone rib keeps the tapered rolls in positive alignment. The load is therefore spread over full roll length.

3 Rolls stay put for life! Rolls in a Timken tapered roller bearing are permanently retained—can't fall out to pick up dirt and grit.

4 Simplicity itself! No special thrust blocks needed—Timken bearings take *both* radial and thrust loads!

5 Rolls "made for each other"—uniformly sized for their particular cone. Each roll carries its full share of load.

6 Rolls can't slide laterally! Due to its tapered design there's no lateral sliding friction in a Timken bearing.

7 No adjustments needed when wheel and axle assembly are installed in the truck.

8 Axle Magnaflux inspection simplified! Bearings press off with the wheel.

9 Use either oil or grease!

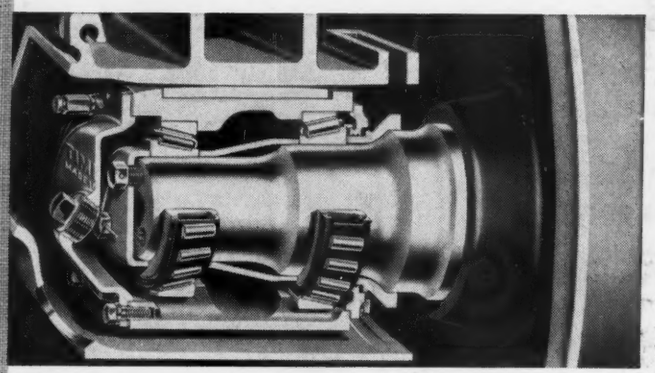
10 Polished axle ends aren't necessary! No thrust block used.

11 Special axle length tolerances not required!

ON OVER 5,000 PASSENGER CARS, OVER 6,000 STEAM, EL AND ELECTRIC LOCOMOTIVES, 3,900 FREIGHT CARS!

27 the Milwaukee Road's *Olympian* became the first transental passenger train to be completely equipped with roller ngs—all of them Timken. Since then the many advantages nken bearings have been conclusively proved in every type road operation. Today, more steam locomotives, passenger nd freight cars roll on Timken bearings than any other of anti-friction bearings.

s help you with your bearing applications. The Timken r Bearing Company, Canton 6, Ohio. Cable address: ROSCO".



Timken bearing application for freight car changeovers.

No other bearing so fully proved!

181485

Pioneer of anti-friction bearings for railroads, Timken has remained the leader ever since. Today Timken has the largest staff of railroad bearing experts in the industry: 64 men working exclusively in the railroad field in research, engineering and service problems.

TIMKEN TAPERED ROLLER BEARINGS

TRADE-MARK REG. U. S. PAT. OFF.

OT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◎ AND THRUST →◎← LOADS OR ANY COMBINATION

PRESENTING—
THE NEW
CERTIFIED - - - -

"BUFFALO"

#18

UNIT BRAKE BEAM

(A. A. R. CERTIFICATE No. 51)

The brake heads and wear plates for the #18 brake beam are interchangeable with "Buffalo" Unit Brake Beam #BB-126 now in service

BUFFALO BRAKE BEAM CO. **New York**

TF
1
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Mar-Apr
1950
pt2

The City of Kansas City, fast Wabash streamliner, as it leaves St. Louis on its daily run westward.

On Time

On station bulletin boards around the country, "On Time" is a familiar symbol of railroad dependability. Nothing quite so well summarizes a safe, normal run. It is a quiet tribute to crew and equipment—yet one so commonplace as to pass without notice. . . . For more than a quarter-century, Bethlehem wrought-steel wheels have been identified with good rail travel, and have helped make "On Time" a tradition with the nation's crack trains. Made of selected steel, forged, rolled, heat-treated, and machined with exceptional care, Bethlehem wrought-steel wheels will meet every demand of today's high-speed service. You can buy and install them with confidence There are no finer wheels made.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL

Bethlehem **WROUGHT-STEEL WHEELS**

Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price $6.00 for one year, U. S. and Canada. Single copies, 50 cents each. Vol. 126, No. 9.

Modern Trains Make Money

● When we build an all-stainless steel railway passenger car, we deliberately build into it the ability to make a profit—and a substantial one.

That profit has two sources. One is earnings derived from patronage, and Budd trains have a notable record of attracting traffic. The other is savings in operating and maintenance costs.

There are many examples of how these Budd characteristics have transformed unsatisfactory operations into profitable ones. Man o'War, for instance, replaced two steam trains which together had lost $150,000 a year. This single, four-car train attracted enough traffic, and operated so economically, it paid a profit of $70,000 *at fares lower than bus fares.*

Budd trains consistently compile availability records of 95% and higher, thanks to their modern design and the superiority of their stainless steel construction. Structures inspected after four and a half million miles of high speed service have revealed no deterioration whatever. No Budd car has ever worn out.

In view of the record and today's requirements, old cars, not new ones, are the luxury cars—a luxury railroads can't afford.

The Budd Company, Philadelphia 32

Budd

Passengers are the sole source of revenue of the six-car Des Moines Rocket. No mail or express. During 1948, the most recent year on which figures are available, it earned a net operating revenue of $552,852.*
Modern trains make money.

*Coverdale & Colpitts Report—1950

This double bedroom, with its luxurious bed, enclosed toilet and wardrobe, full-width panorama window, fluorescent lighting, radio and air conditioning is an example of the many improvements Budd has brought to modern passenger cars that make people prefer to travel by train.

EASY TO ROLL OUT...

This 25-cell, 850-amp-hr air-conditioning battery, weighing about 2580 pounds, is easier to pull out for inspection than a 5-cell tray in any ordinary installation.

That's because

The Wheels Do the Work

Battery inspection can be SIMPLE!

WITH POWER demands on railroad batteries becoming greater, and with turn-around time for passenger trains becoming shorter, there's a growing need for quicker, yet more *positive*, battery servicing during layovers.

It was to meet this situation that engineers of the Edison Storage Battery Division developed the Edison roll-out battery cradle. It's a simple device —a sturdy steel cradle fitted with husky ball-bearing wheels, which can be rolled out along extension tracks. It makes every cell completely accessible for swift, sure servicing.

Don't overlook this new way to cut maintenance costs. Let us assist you in adapting roll-out cradles to existing or proposed compartments. Complete information and typical layouts furnished on request.

During the past three years, the roll-out cradle has been field tested and adopted by several of the nation's top railroads, and the following additional advantages have been established:

Cleaner batteries: dirt quickly blown out during servicing.

Shorter jumpers: reduced cable footage, less voltage drop.

Quicker shopping: entire cradle removable by crane or fork truck.

Better ventilation: battery suspended above compartment floor.

No conflicts: roll-out compartment also takes regular assemblies.

No greater space: will accept largest battery now in standard compartment.

EDISON

Nickel · Iron · Alkaline

STORAGE BATTERIES

EDISON STORAGE BATTERY DIVISION OF THOMAS A. EDISON, INCORPORATED, WEST ORANGE, NEW JERSEY

You'll get SPEEDIER ERECTION ...BETTER SERVICE

with

Amcreco *Creosoted*

FRAMED BRIDGE TIMBERS

You benefit two ways when you use Amcreco Framed Bridge Timbers—preframing speeds building and saves labor... Amcreco Creosoting Methods assure long life and low maintenance. Long experience in supplying a wide variety of creosoted products for the nation's railroads eminently qualifies Amcreco as a reliable source. Amcreco's engineers are always at your service to aid in solving trestle problems as well as any problem related to the application of creosoted products. Plan now to take advantage of this helpful service. There is no obligation of course.

Adzed and Bored Cross Ties

Bridge Ties

Piles

Timbers

AMERICAN CREOSOTING COMPANY

INCORPORATED

COLONIAL CREOSOTING COMPANY INCORPORATED

AMCRECO LOWRY PROCESS

GEORGIA CREOSOTING COMPANY INCORPORATED

LOUISVILLE, KENTUCKY

AMCRECO Lowry Process CREOSOTED PRODUCTS

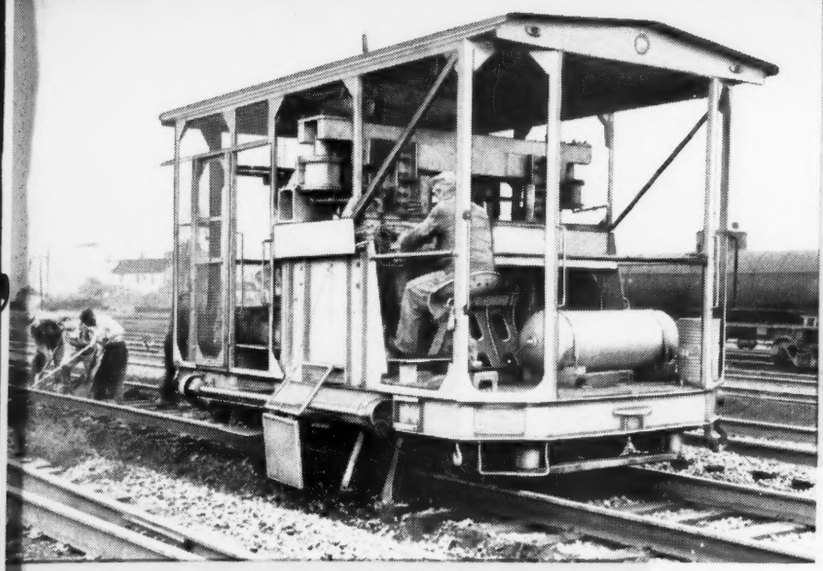
Pressure treated for strength that lasts!

You can give TRACK the "*full treatment*," too!

You can do a better job *faster*. You can save *multiple* man-hours. You can minimize rerouting. You can make the most of favorable working conditions . . . by giving track this up-to-date, high-production machine maintenance—the "full treatment" where necessary.

Pullman-Standard makes the machines to do the job—the Power Track Cribber, the Ballast Cleaner, and the Power Track Ballaster. Using *two* cribbers, one cleaner, and one ballaster, trailing each other in a mobile production line, a 24-man gang recently renovated a 10-mile stretch of Michigan Central track at the rate of *450 to 600 feet an hour!*

Study the pictures of these capable machines, at the right. Notice the economies that they can effect. And then—read the "Important Notice" outlining the *flexible policy* under which they are now available to railroads.



"FULL-TREATMENT" STEP No. 1

CRIBBING—The Pullman-Standard Power Track Cribber can crib out from 170 to 250 feet of track per hour, depending on the ballast condition. Typical case history: hand-cribbing cost per mile, $2,000.00; with Power Track Cribber, $430.00; saving per mile, $1,570.00.

"FULL-TREATMENT" STEP No. 2

CLEANING—The Pullman-Standard Ballast Cleaner can clean both crib and shoulder ballast (both shoulders at once), without fouling adjacent tracks. Experience under actual service conditions indicates savings in line with those reported for the Power Track Cribber and Ballaster.

"FULL-TREATMENT" STEP No. 3

TAMPING—The Pullman-Standard Power Track Ballaster can tamp approximately 500 track feet per hour, more firmly and uniformly than by any other method. Typical case history: cost per mile with power hand tools, $1,470.00; with Power Track Ballaster, $422.40; saving per mile, $1,047.60.

Pullman-Standard

CAR MANUFACTURING COMPANY

POWER BALLASTER DIVISION

79 East Adams Street, Chicago 3, Illinois

BIRMINGHAM 3, 1004 First National Building • CLEVELAND 15, 907 Midland Building
NEW YORK 17, 52 Vanderbilt Avenue • PITTSBURGH 19, 1115 Gulf Building
WASHINGTON 6, D. C., 1025 Connecticut Avenue, N.W.
SAN FRANCISCO SALES REPRESENTATIVE: MARK NOBLE

IMPORTANT NOTICE . . . Pullman-Standard power track maintenance machines are available to railroads in any of the following ways:

1. By outright purchase.
2. On installment terms.
3. By rental, with option to purchase.

Further information will be promptly supplied.

"TRACK AT ITS LEVEL BEST" fully describes and pictures these money-saving machines. You are invited to write for a copy of this 24-page brochure.

Exide-Ironclad

The Diesel-cranking BATTERY that gives you . . .

When it's an Exide . . . *YOU START*

1888 . . . DEPENDABLE BATTERIES FOR 62 YEARS . . . 1950

. . . OUTSTANDING PERFORMANCE under all operating conditions

Exide-Ironclad Batteries for Diesel locomotive cranking are DIFFERENT . . . in design and construction . . . differences that give you sure starting, day after day, in freight and passenger train service, in switching and industrial service. They give you . . .

these three HIGHS

. . . high power ability for quick breakaway and high cranking speed.

. . . high sustained voltage for uniform control operations.

. . . high availability—no unscheduled delays due to starting failure.

these three LOWS

. . . low operating costs—because of the battery's high electrical efficiency.

. . . low maintenance and repair costs—rugged construction keeps them on the job.

. . . low depreciation costs—due to exceptionally long life.

and you get this added PLUS— STANDARDIZATION

The new molded container assembly of the Exide-Ironclad provides a universal, interchangeable battery for cranking Diesel-electric locomotives of practically every size.

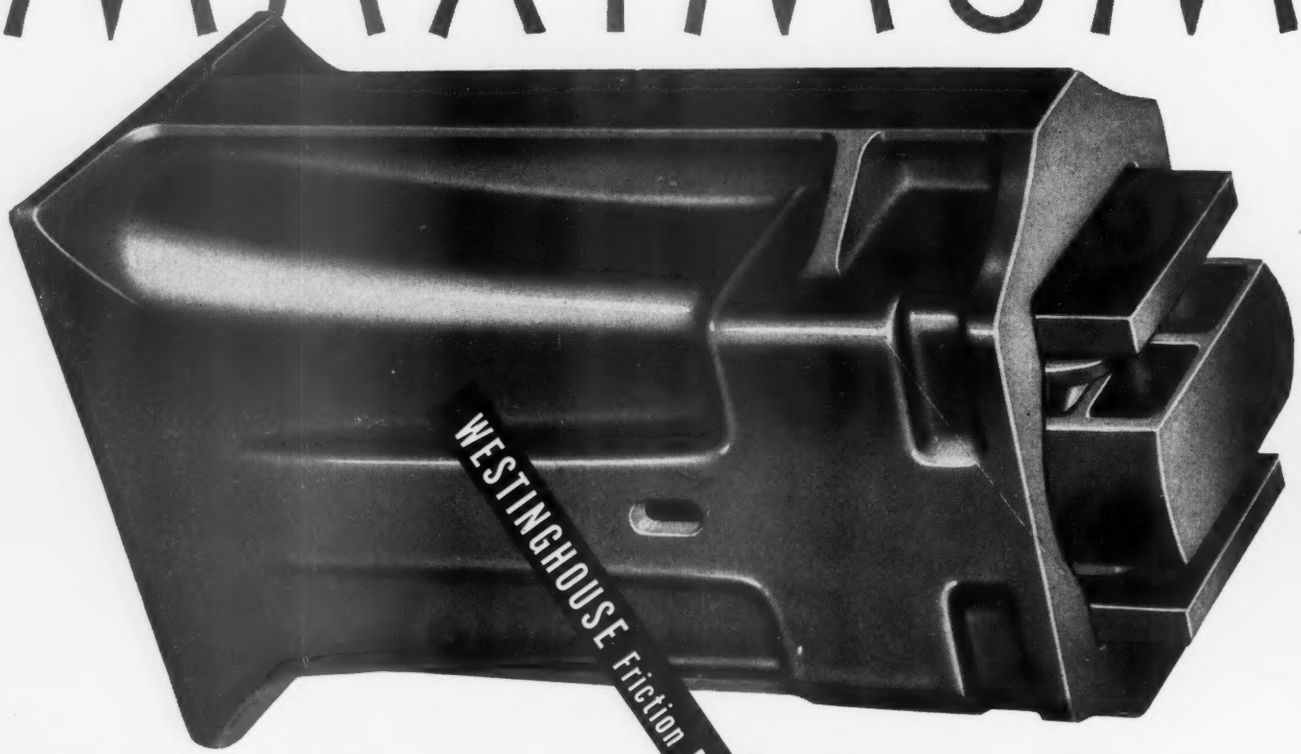
MV-17-D
Exide-Ironclad Battery —284 ampere hours— extensively used for cranking switching locomotives of 600 H.P. and larger.

MV-25-D
Exide-Ironclad Battery —426 ampere hours— extensively used for cranking road locomotives of the larger sizes.

DEPENDABLE
POWER
Exide
IRONCLAD BATTERIES
"Exide-Ironclad" *Reg. Trade-mark U. S. Pat. Off.*

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

MAXIMUM



PROTECTION

in all respects

Cardwell and Westinghouse shock-absorbing devices protect rolling stock against excessive horizontal, vertical, lateral and angular forces. They are designed with a high factor of safety, resulting in capacities well above the requirements.

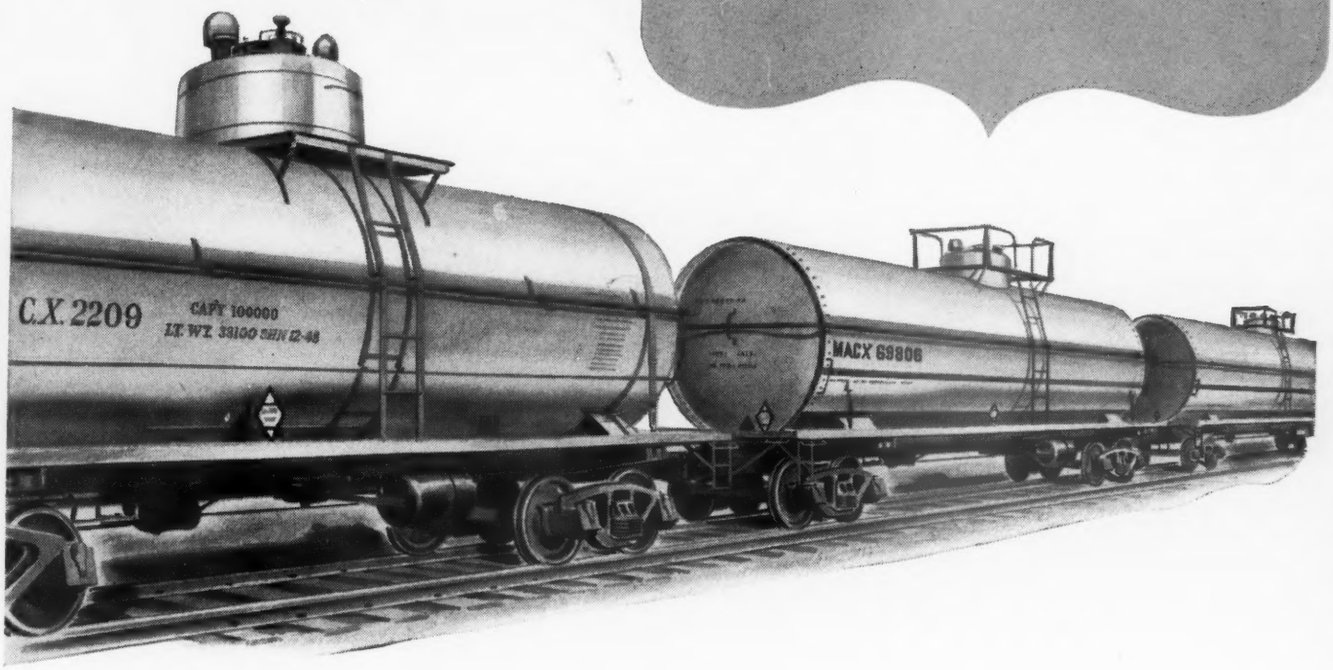
Over 98% of the cars in freight carrying service are A.A.R. construction and over 96% have Friction Draft Gears.

2698

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

FUMING ACIDS?

FUSSY FLUIDS?



. . . Ship 'em safely in tanks of ALCOA ALUMINUM!

Aluminum tanks are tough. Impervious to most acids. Unharmed by many corrosive ladings.

Aluminum tanks are friendly. They do not contaminate food products. Do not promote decomposition of chemicals.

That seeming paradox explains the growing popularity of Alcoa Aluminum tanks among shippers and railroad alike. More aluminum tank cars were delivered last year than in the previous three years. These cars save money, because they protect valuable ladings . . . and because they require far less maintenance than ordinary tank cars.

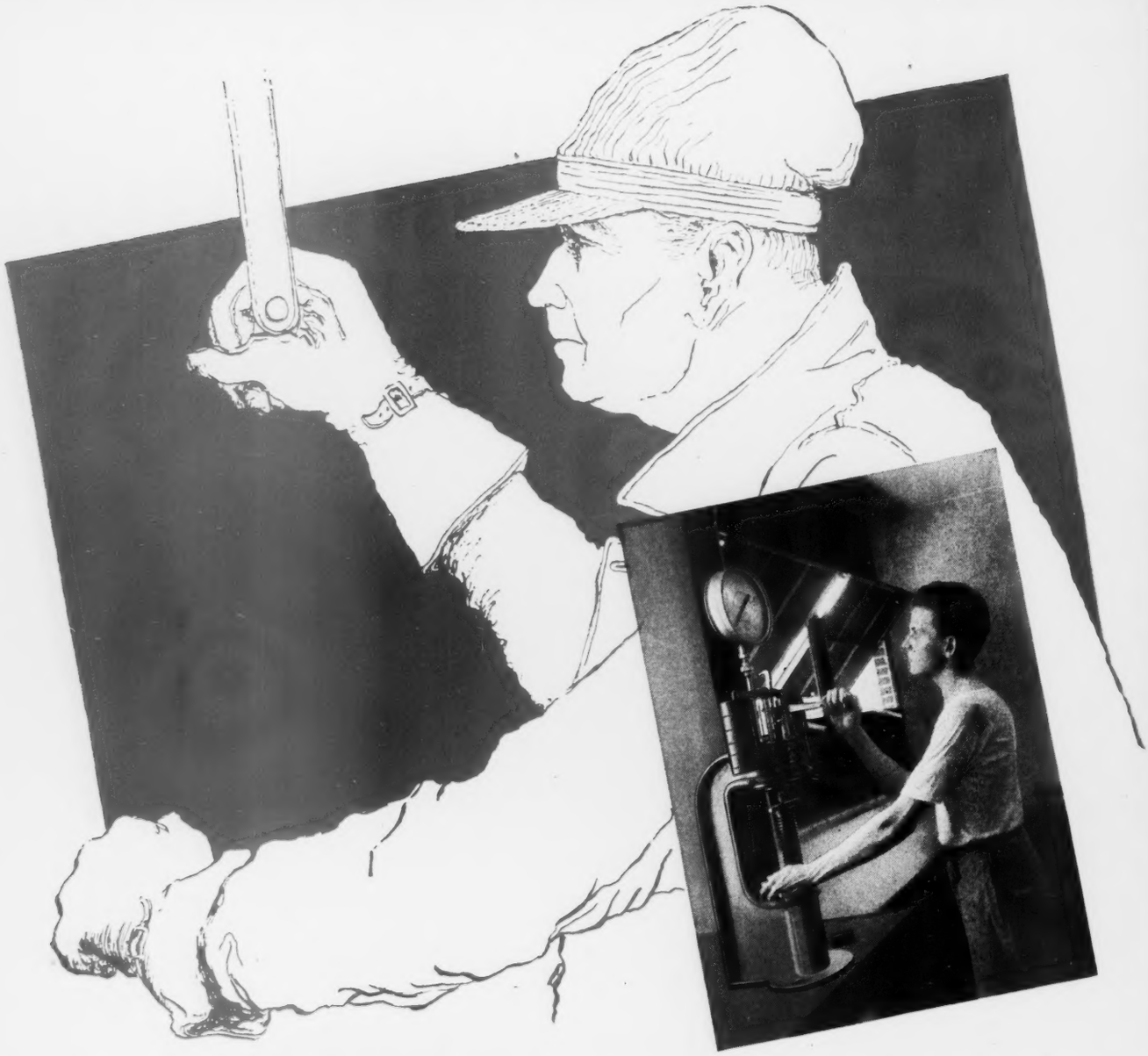
What's *your* shipping problem?

Perhaps tanks of Alcoa Aluminum are the answer. Alcoa has worked closely with the car builders to develop high-strength aluminum alloy plate and successful fabricating methods. For full information, contact your tank-car builder. Or write ALUMINUM COMPANY OF AMERICA, 1816A Gulf Building, Pittsburgh 19, Pennsylvania. Sales offices in principal cities.

ALCOA FIRST IN ALUMINUM ...THE METAL THAT *LASTS*

ALCOA ALUMINUM

INGOT • SHEET & PLATE • SHAPES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • SAND, DIE & PERMANENT-MOLD CASTINGS • FORGINGS • IMPACT EXTRUSIONS
ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS



COMPLETELY UNDER CONTROL!

Our eagle-eyed laboratory engineers guard the quality of Scullin railroad castings as carefully as your engineers control their trains.

Every "heat of steel" is accurately controlled and scientifically analyzed to assure you ultimate quality castings when you

specify *laboratory-controlled*

SCULLIN STEEL CASTINGS

for *safe* speed and stamina

SCULLIN STEEL CO.

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NEW YORK • CHICAGO • CLEVELAND • BALTIMORE • RICHMOND, VA. • MEXICO CITY, D. F.

HONEYWELL
ELECTRONIC MODUFLOW
means comfort . . . not
just temperature control

TELEGRAM

HONEYWELL
ELECTRONIC MODUFLOW
a simpler way of
doing a better job

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RAILWAY MEN EVERYWHERE

HONEYWELL CAR HEATING SYSTEM USES LESS STEAM ...HAS WON EVERY TEST...SAVINGS DUE TO SIMPLIFIED PIPING AND LESS WASTE UNDER CAR...YOU WILL PROFIT BY INSTALLING ELECTRONIC MODUFLOW ON AT LEAST ONE OF YOUR CARS THIS YEAR

MINNEAPOLIS-HONEYWELL
2960 FOURTH AVE. SOUTH
MINNEAPOLIS, MINNESOTA

No other locomotive

is proved by

two billion unit-miles of

Diesel experience on the rails

That is why so many railroads with rapid dieselization programs choose General Motors locomotives ahead of all others.

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

General Motors, La Grange, Illinois

Home of the Diesel Locomotive

FLEXO-4 LIDS *cure troubles* 4 WAYS

1. CONTROLLED FLEXIBILITY —spring-controlled construction with ample flexibility to compensate for varying condition of journal box mouth and hinge-lug wear.

2. TIGHT FIT —keeps oil in and dust, dirt and water out.

3. LONG-LIFE MALLEABLE IRON —physical properties that resist corrosion, shock and distortions and lengthen lid life.

4. POSIT VE OIL RFTURN LEDGE —keeps oil from seeping out at mouth of journal box; conserves oil and improves lubrication.

By assuring protection *under the lid* for the vital journal bearing, these features of NATIONAL FLEXO-4 LIDS help you maintain schedules and deliver on time and in good order. Their long life means substantial economies in lid costs.

For your new cars and for repairs, specify NATIONAL FLEXO-4 LIDS

JOURNAL BOXES AND LIDS • TRUCKS • COUPLERS
DRAFT GEARS • YOKES

NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY
Cleveland, Ohio

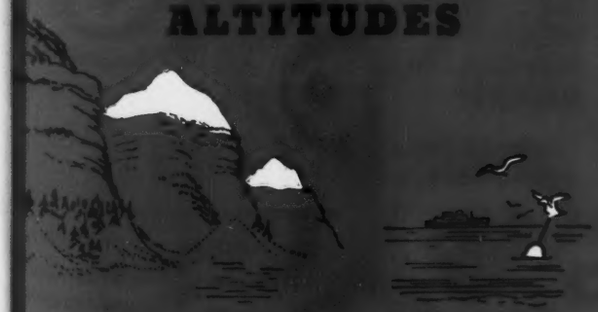
NATIONAL *Products*
FOR TRANSPORTATION AND INDUSTRY
M&S Co.
Est. 1868

EDWARDS DOUBLE GLAZED SASH FOR CONSTANT, BRILLIANT VISIBILITY

IN ALL SEASONS

CLIMATES

ALTITUDES



EDWARDS double glazed, double sealed, dehydrated units may be mounted in two general types of aluminum, bronze or stainless steel sash frames for installation in the window opening.

The first of these designs, generally used up to this time, is the double metal frame type requiring complete removal from the car opening and disassembly of the two frames whenever glass replacement must be made.

The second is an improved design recently developed and being introduced by EDWARDS. It permits quick, easy replacement of the double glazed unit by unskilled workmen without the use of tools. No removal or disturbance of the sash frames is necessary. Replacement expense, unavoidable with the double frame type, is greatly reduced.

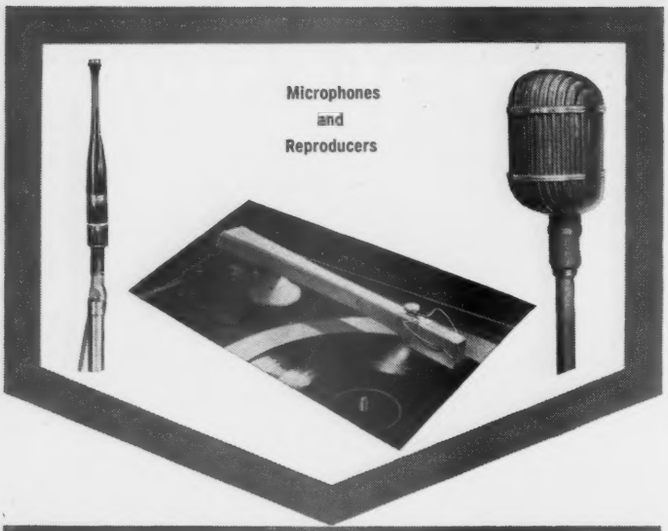
For complete, detailed information on the different types of double glazed units and various designs of sash frames, write us.

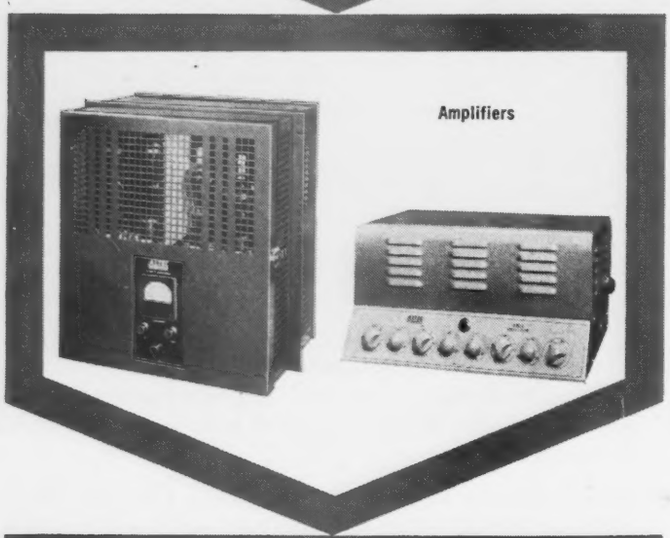
THE O. M. EDWARDS CO., INC., SYRACUSE, N.Y.
New York Office — 50 Church St., N.Y.C.

In Canada: O. M. EDWARDS CO. OF CANADA LIMITED
Offices and Plant
4000 NAMUR ST., MONTREAL 16

EDWARDS · SASH
THE EYES OF TRANSPORTATION

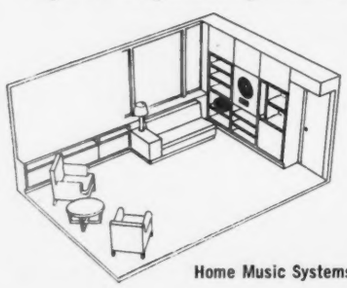
SASH FOR EVERY TYPE OF TRANSPORTATION—ON LAND, ON THE SEAS, IN THE AIR





ALTEC... the *SOUND* Investment!

For those willing to pay just a little more for *perfection,* there are ALTEC sound systems to meet the most exacting requirements. Engineered for *any* installation . . . public address, stadiums, theatres, railway yards, factories, night clubs, or for the home. Now, with the inclusion of selected Western Electric products, ALTEC offers the *most complete* audio line. And because all components in ALTEC equipment are made for each other . . . designed to work together . . . you enjoy a new high in engineering excellence. To stand behind this integrated line ALTEC offers engineering service, installation and maintenance from coast to coast.



Home Music Systems

DEALERS EVERYWHERE

1161 North Vine Street
Hollywood 38, California
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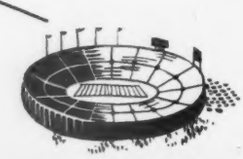
ALTEC
LANSING CORPORATION

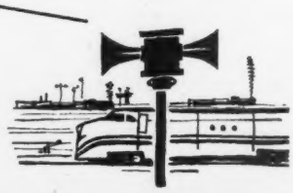
Components shown are a few from the wide selection available.

FOR INDUSTRY

FOR PLACES OF ENTERTAINMENT



FOR SPORTS ARENAS



FOR RAILROADS

Diesel switchers benefit by...

● The Diesel switchers at Inland Steel's Indiana Harbor plant haul punishing loads of slag, ore, and steel on a 'round-the-clock schedule. On this difficult operation, excellent maintenance practices and the use of STANDARD HD Diesel Oil have kept engine availability high and upkeep at a minimum. An outstanding benefit of effective lubrication was revealed recently when a veteran Electro-Motive engine was completely overhauled for the first time in 13½ years of service.

The crankshaft in this Diesel had never been removed. Now, after 92,484 hours of operation, it showed no more than .008-inch wear on any of the main bearings and only .006-inch wear on any of the connecting-rod bearings.

More than 60 railroads now use STANDARD HD Diesel Oil on their heaviest passenger and freight runs. This acceptance indicates the ability of this truly heavy-duty oil to provide effective lubrication for all types of Diesel locomotives. Make that your basis for investigating STANDARD HD Diesel Oil.

Standard HD
DIESEL OIL

Write Standard Oil Company (Indiana), 910 S. Michigan Avenue, Chicago 80, Illinois.

STANDARD OIL COMPANY (INDIANA) STANDARD

Old Reliable —By Hungerford

Watch for other railroad cartoons by Mr. Hungerford

A cut of suitable size may be obtained at cost by anyone wishing to reproduce the above cartoon.

Address requests to:

Edgewater Steel Company,
P. O. Box 478, Pittsburgh 30, Pennsylvania.

Behind the familiar face of any International engine or tractor grille lies rugged, low-cost power.

At left, an International T-9 crawler, with mounted 160-cubic-foot air compressor, supplies air for hammers and blowers forcing grouting material into a roadbed for greater stability. In 8,000 hours of operation, the power cost for fuel, lubrication and repairs on this unit was less than 46¢ an hour—proof of the advantage of putting International power on your jobs.

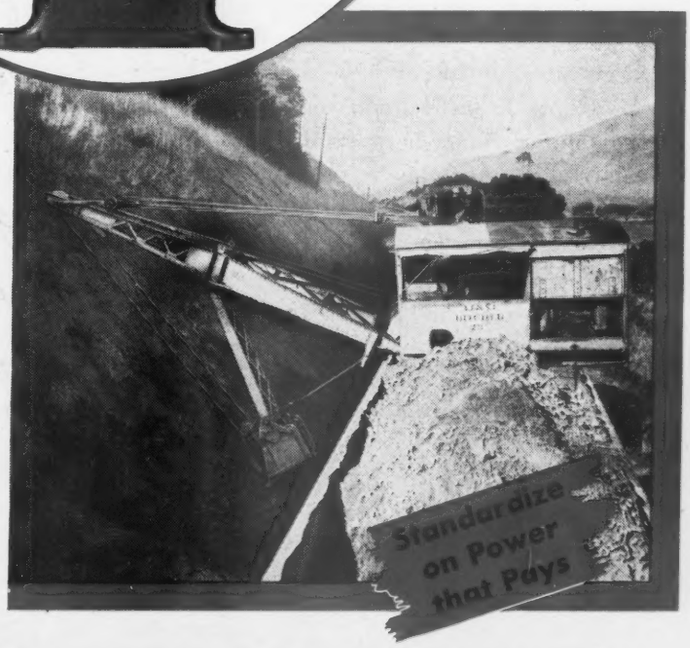
The "FACE" of Low-Cost Power

Powered by an International UD-9 Diesel Power Unit, the ditching machine, at right, gets its "drive" for less than 18¢ an hour for fuel and lubrication. No repairs have been needed by this engine in 4,000 hours of operation. The UD-9 has proved to be much more economical and trouble-free than the steam power it replaced.

Your International Industrial Power Distributor will be glad to show you the reasons why rugged power and rigid economy lie behind every International grille. You'll see the fastest way to put a bright face on your cost sheets is with dependable International tractors and International-powered equipment.

INTERNATIONAL HARVESTER COMPANY • Chicago

Tune in James Melton and "Harvest of Stars" —NBC, Sunday afternoons.



CRAWLER TRACTORS
WHEEL TRACTORS
DIESEL ENGINES
POWER UNITS

INTERNATIONAL HARVESTER

INTERNATIONAL INDUSTRIAL POWER

New Suburban Streamliner†

Uses Thermopane — for greater comfort — lower maintenance

New streamlined coaches—twenty of them—are providing the last word in comfort for Rock Island commuters riding between Chicago, Blue Island and Joliet. And they're providing the last word in efficient, low-cost operation for the Rock Island.

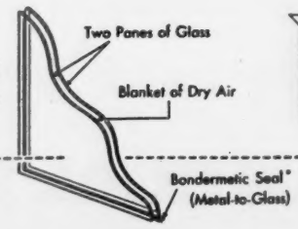
Selection of *Thermopane** insulating glass for exclusive use on these cars is an important factor in both benefits. Only *Thermopane* offers comparable passenger comfort with such complete freedom from excessive operational expense.

This sealed-at-the-factory, double-glass insulating windowpane includes an outboard pane of Heat Absorbing Plate Glass (to reduce solar heat and glare) and an inboard pane of laminated Safety Plate Glass (for extra safety). A neutral plastic filter is used in the lamination to further reduce glare. The entire glass unit floats in live rubber for resiliency and quietness.

There's no condensation or annoying film between the panes—and only the two exposed surfaces need washing. This is an important consideration in the maintenance of efficient, economical suburban train service. Like more information? Drop us a line. *®

†*The Rock Island's new streamlined suburban coaches, built at a cost of $100,000 each, are 85 feet long and seat 100 passengers per car.* Thermopane *windows are used exclusively.*

FOR BETTER VISION SPECIFY THERMOPANE
MADE WITH POLISHED PLATE GLASS



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Thermopane

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THIS NEW BRAKE HEAD FITS ANY SIZE OR KIND OF SHOE. IT SAVES TIME AND MONEY TWO WAYS . . .

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AMERICAN STEEL FOUNDRIES

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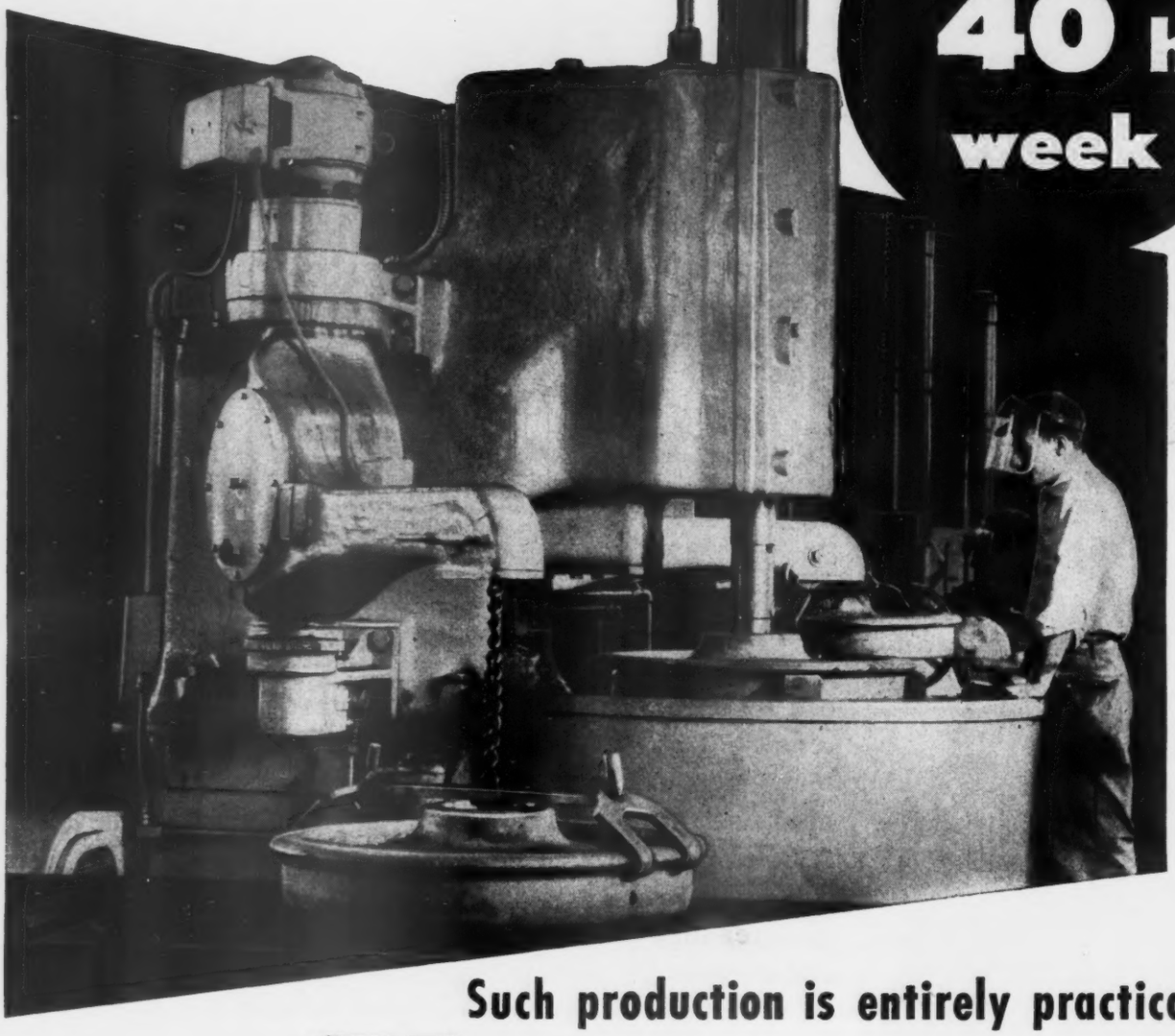
300 wheels ...in a 40 hr week



Such production is entirely practical with the NILES HYDRAULIC CAR-WHEEL BORER

The report which we received recently with a photograph of a Niles Hydraulic Car-Wheel Borer said simply: "Tools No. 44 Carb. tips. A cast wheel every 4 minutes. A steel wheel every 6 minutes."

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* * *

This Niles Hydraulic Car-Wheel Borer has a range of table speeds and feeds designed for carbide tools. After the desired speeds and feeds for roughing, finishing and chamfering are selected, they are automatically engaged at the proper time during the cycle. The cycle itself is entirely automatic, from movement of starting lever to return traverse of the boring bar and application of table brake. Wheels are chucked and unchucked by pressing buttons. Provision is made for hub facing, with hydraulic feed. (Attachment not in use when this photograph was taken.)

The Niles borer may be, and usually is, supplied with its own cranes—one, or one on each side—driven by separate motors and bolted to the machine frame. These cut loading and unloading time.

* * *

To date, 34 railroads and nine car and locomotive builders have purchased 74 of these machines. We will be glad to help you make arrangements to see one in operation. Just call the Lima-Hamilton sales office in New York, Chicago, or other principal cities, or write direct to Lima-Hamilton Corporation, Hamilton, Ohio.

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NANCY HANKS II carried nearly 170,000 passengers in its first year of operation, for a net revenue of $160,000! Its companion streamliner, **MAN O' WAR** replaced 2 trains that were losing money, and netted $39,000 the first 12 months!

It's time to look at the P

TEXAS SPECIAL new chair cars with lounge-buffet service: restful reclining Sleepy Hollow chairs, have substantially increased coach travel. Roomette and bedroom sleepers are very popular with Southwestern travelers. Revenue per mile on this train has exceeded all expectations.

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MISSOURI RIVER "EAGLES" In 9 months, between St. Louis and Kansas City, these 2 new trains earned 129.6% more passenger revenue than their predecessors. This compared with a 7.3% rise for all standard equipment in the System.

Ever since the first "luxury" streamliners were installed back in the middle 30's, they have always been bought on the basis of *sound economics.*

It is still true today...

The operating statistics of modern passenger equipment, where they have been kept, prove conclusively that such equipment, properly promoted and judiciously employed, not only increases traffic, but lowers operating costs as well—with a resultant profit improvement.

e Profit Record of MODERN EQUIPMENT

The **MEADOWLARK** has increased passenger revenue on its routes by more than 20%!

The facts and figures you'll find on this page, are but a few of the published reports on specific "trains of the streamlined era" now in service.

Modern freight equipment, too, plays a vital role in any Railroad Modernization Program. Railroad and Shipper alike, benefit from the improved service obtained—with an excellent opportunity to reduce damage claims.

In the years ahead, modern equipment can't help but be a cornerstone in the profit structure of America's Railroads. American Car and Foundry Company.

a.c.f. CAR BUILDERS TO AMERICA'S RAILROADS

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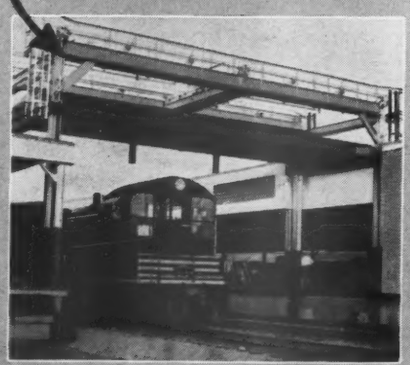
with a WHITING CROSS-OVER BRIDGE

Photos Courtesy
Texas and Pacific Railway



Whiting Cross-Over Bridge in raised position

THE Texas and Pacific Railway has installed two Whiting Overhead-Rise Cross-Over Bridges in their new freight terminal, Dallas, Texas.

Whiting Cross-Over Bridges speed up materials movement from dock to dock, thereby reducing freight handling time. These bridges can be moved into position or out of the way by push-button control. They are of a screw-lift type that assures perfect safety in raised position, and with a lifting speed of approximately 10 feet per minute. They are designed for 200 pounds per square foot uniform and 3500 pounds concentrated loading.

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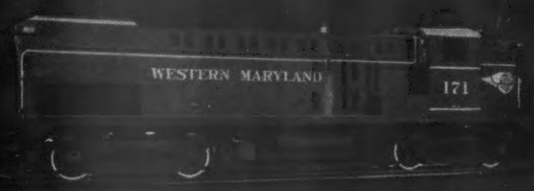

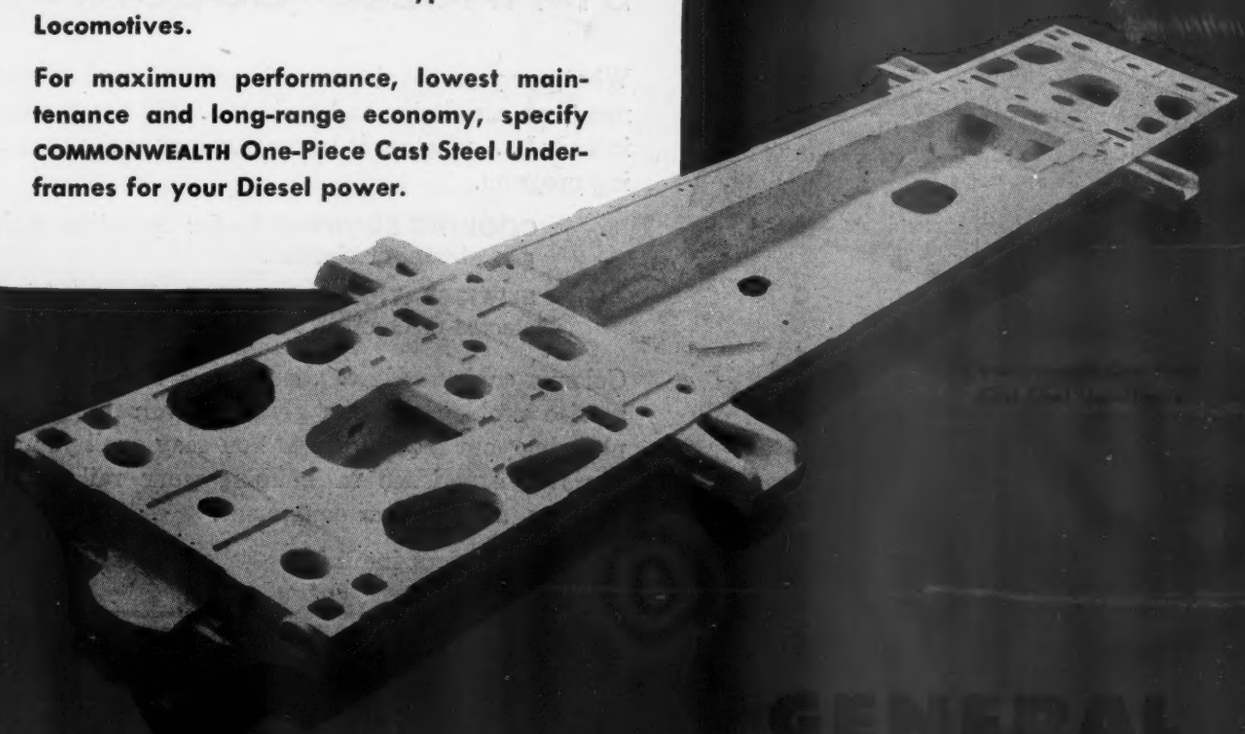

GENERAL STEEL CASTINGS

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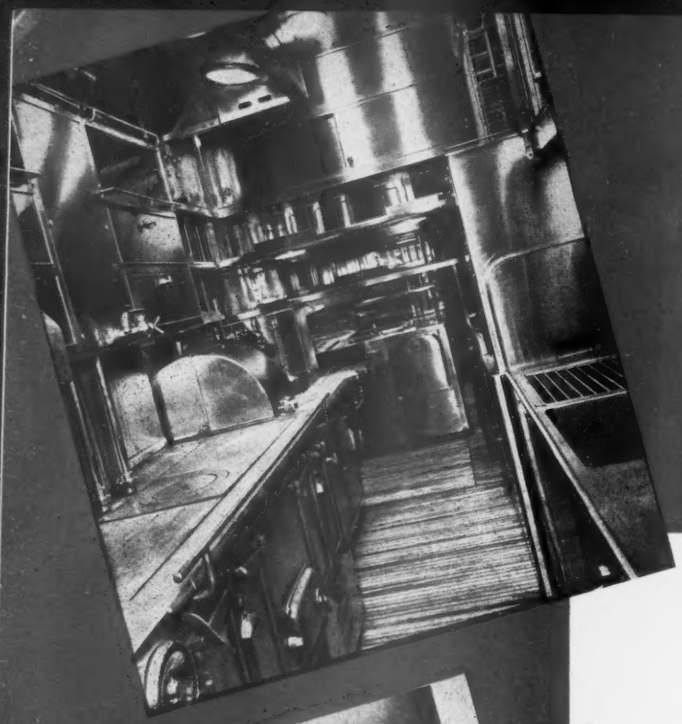

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Whatever your requirements in railroad food service equipment, we can design and build it . . . for the specific service intended . . . whether it be for new cars or for your remodeling program.

COOKING EQUIPMENT—for operation with gas, steam, or electric.

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Colonna engineers have the answers to your railroad food service problems . . . can give you valuable assistance in planning your requirements. You may avail yourself of our years of experience in building your railroad kitchens, pantries, and club car equipment.

We welcome your inquiries.

Over 20 years of continuous service to the railroads of America

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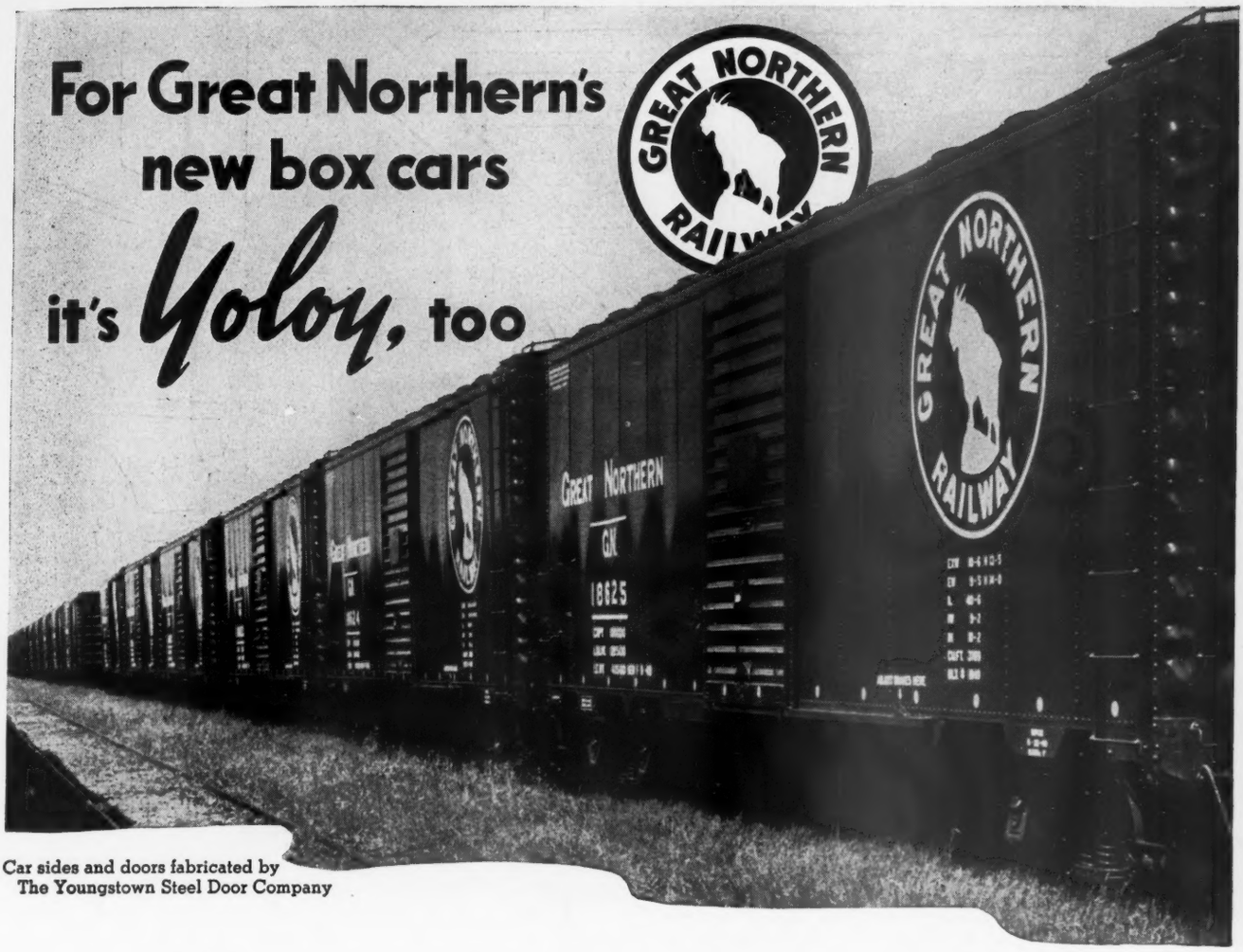

Car sides and doors fabricated by
The Youngstown Steel Door Company

THREE thousand new box cars, built by the Great Northern Railway since the war, using Yoloy Steel.

Use of this high tensile steel brings three major improvements: (1) Dead weight of rolling stock is reduced; (2) fabrication of Yoloy is easy; (3) car life is lengthened and maintenance lowered.

Yoloy is Youngstown's high strength, low alloy, nickel-copper steel. Because of its extreme toughness and extra strength, Yoloy can be used in thinner sheets and lighter structural members than usual, without loss of over-all strength. This results in lighter weight construction which not only reduces the cost of dead weight hauls, but permits increased payloads as well.

Yoloy also has unusual ability to resist corrosion, and is highly resistant to abrasion and shock at sub-zero temperatures. It welds and forms easily. It has proved its all-round value as a weight-saving, long-life construction material in rail transportation for more than 15 years.

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did you hear the one about the

Two Traveling Men?

Once there were two traveling men, who boarded separate trains for an overnight journey. One got off next morning full of pep and bounce, ready for a big day's work. "Slept like a top," he reported. "Smoothest ride I ever had."

The other emerged heavy-eyed and pessimistic. "What a ride!" he said. "Almost got jolted out of my berth. Hardly slept a wink." And the point of the story is—which one was *your* passenger? . . . and which one will *stay* your passenger?

• • • • •

If you are now planning on any new trains for de luxe service, you are probably giving the question of passenger comfort a lot of thought. Brakes can't, of course, provide the complete answer—but on a number of roads Westinghouse HSC Electro-pneumatic brake equipment has been a big help in smoothing the ride, and improving and maintaining schedules. Application and release impulses are transmitted simultaneously to every car on the train . . . the Speed Governor Control automatically proportions brake pressure to speeds . . . the Decelostat instantaneously softens braking effort if wheel slip impends.

Brakes are Basic to Railroad Progress

Westinghouse Air Brake Co.

WILMERDING, PA.

Vol. 128, No. 9 March 4, 1950

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CUT COSTS STEP-UP EFFICIENCY with UNION "C.T.C."

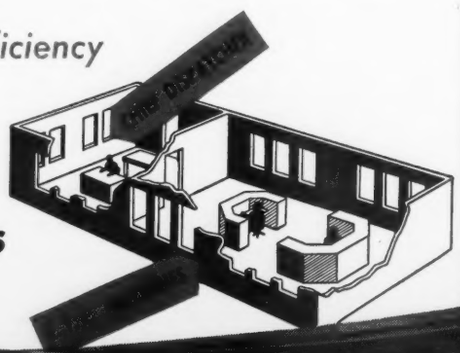
ONLY headquarters has the *overall* knowledge of road and yard traffic conditions on an entire division. Therefore, operating efficiency is increased, maximum benefits obtained when all controls are handled from this *one* location.

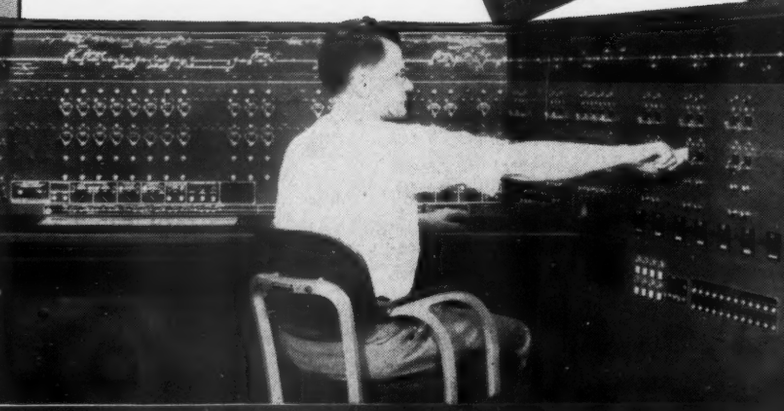
"Union" Centralized Traffic Control provides headquarters with up-to-the-minute information as to train location and track availability within the territory. Train movements, governed by signal indication, can be coordinated readily, with no time lost in arranging close meets and passes. Result . . . valuable time and manpower savings.

So in your search for ways and means to reduce operating expenses, and to improve further your road's high standards of service, consider the proved economy and efficiency of "Union" C.T.C.—

and for maximum efficiency

Concentrate Control at Division Headquarters





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WEEK AT A GLANCE

REPORT ON STREAMLINERS: In this issue, beginning on page 47, we are privileged to reproduce the essential features of a report by Coverdale & Colpitts on the operation of streamlined passenger trains. Included therein are actual detailed figures on the revenues and expenses of 58 of the nation's finest streamliners. Encouraging and significant is the conclusion inevitably to be drawn from the figures—that passenger service *can* be made to pay, when potential traffic volume is available and the right sort of equipment is provided.

"BASIC QUESTION": The "basic question" of whether the railroads can make enough more operating economies to stay financially healthy in the face of subsidized competition and higher labor costs was admirably stated by Vice-President Shoemaker of the D.L.&W. in a March 2 forum discussion at the annual meeting of the National Federation of Financial Analysts Societies. His talk, and others relating to railroads at the same meeting, including one by the editor of this paper, are summarized in the News.

READY TO GO: The Transportation Association of America, which is seeking an economic "public interest" solution, rather than a selfish political solution, to the nation's transportation problem, has completed the basic organization of its National Cooperative Project, and hopes to make its first report to Congress within a year. The association's aims, and much of the project's organization, have been told before, but are worth repeating on the basis of the T.A.A.'s March 3 statement to a Congressional committee. Details appear in the News section.

IN THE SPOTLIGHT: Freight-rate increase in Canada.—Eastern railroads' move to meet truck competition on iron and steel.—Revenue service tests for Budd's RDC-1.—Carrier status for forwarders?—More truck routes for the G.N.—Management-labor call for courteous service.—Transportation hearings before a House subcommittee.—Emergency board for trainmen and conductors.—New Santa Fe passenger services.—New freight efficiency records.—Wartime need for stronger railroads.

BRASS TACKS: How the Pullman Company gives its conductors and porters a frank insight into its business through a series of informal service conferences, now in its fourth year, is described in the article which begins on page 42.

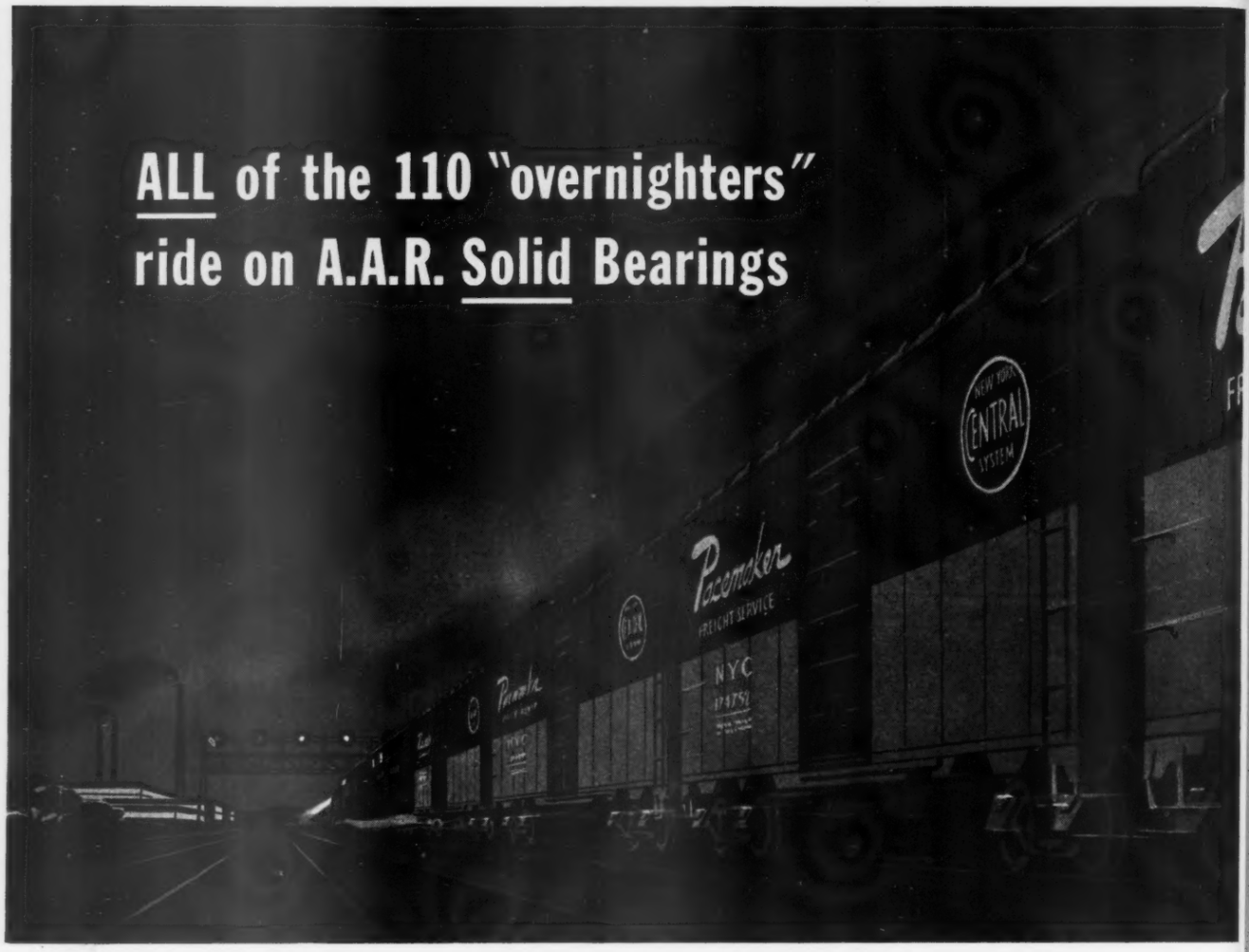
HEAVY EQUIPMENT FOR THE WINTER FRONT: Three western roads have just received from Lima-Hamilton Corporation a total of four new 1,500-hp. rotary snow plows, to aid them in keeping their lines open even under winter conditions as severe as those they encountered in 1948-1949. The new units are described and illustrated in the feature article starting on page 44. It's worth noting, incidentally, that these plows were purchased, and will be operated, by the railroads at their own expense to keep their "highways" open for service to the public. We bet it will have to snow you know where before anyone reads about a truck or bus company spending *its* money to buy or operate snow plows. It's so much easier—and so much cheaper for the trucks and buses—to let the poor old taxpayers do it!

NEXT WEEK—"EXHIBIT IN PRINT": Next week's *Railway Age*, preceding the annual meeting of the American Railway Engineering Association, will include a special section—an "Exhibit in Print"—describing and illustrating many of the new and improved devices, of special interest to engineering officers, which are now available.

SOUND TESTING FOR RAIL DEFECTS: Everyone, presumably, knows the old chestnut about the man whose job was to "help the car knocker listen." He's retired on pension now, and his place has been taken by an "ultrasonic reflectoscope"—not actually (yet) on car wheels, but certainly on possible rail defects within joint-bar limits. How this instrument operates, and how it is used in testing rail, are told on page 55 by H. C. Drake, research consultant for Sperry Products, Inc.

MORE "FREE RIDES": Evidence that big commercial trucks are in fact getting "free rides" over large sections of the nation's highways continues to accumulate. Latest testimony to this effect is a report on highway finance in New York state by Griffenhagen & Associates, which shows that the Empire state, like so many others, is overcharging private motorists and operators of small trucks even while it lets big truck operators get away with financial murder. The study, summarized in the News pages, shows that, under some conditions, heavy trucks should pay license fees *13 times as high* as are now charged them.

THAT LONG ISLAND WRECK: Everyone, of course, regrets that wreck on the Long Island. We, like everyone else, wish it had never happened. But, hardly less deplorable than the wreck itself, are the biased, hysterical accounts of it which have appeared in certain newspapers and certain national "news" magazines—accounts apparently written by persons whose entire knowledge of railroad operation was gained from a single trolley car ride to Coney Island back in the days when Jimmy Walker was mayor of New York. Our leading editorial this week points out how much farther railroads have gone in promoting safety—at their own expense—than has any other form of transportation. And it concludes that the first step in inducing the public to appreciate railroad safety is for railroad men themselves to attain a deeper understanding of it, and to become more outspoken about it in their contacts with the public.



—with an unequalled record of high speed performance!

TAKE THE "PACEMAKER" FOR EXAMPLE:

In one period of slightly more than a year, the New York Central System's 917 Pacemaker cars traveled over 42,000,000 car miles without a hot box. Since placed in service these same cars have averaged better than 17,000,000 car miles per hot box.

All of these cars use standard A.A.R. solid journal bearings, but otherwise have been specially designed for modern, fast-freight lcl service. They are "on-line" rolling stock, and are never "humped."

From all available authentic data, this is the best performance record for any type of bearing — in freight or passenger service. It shows what the simple, one-piece, solid bearing can do under favorable operating conditions — and at lowest possible cost.

Write for additional data

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Subsidiary of
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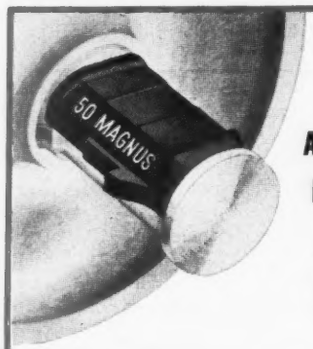

Here's why America's Railroads have standardized on solid journal bearings

MAXIMUM DEPENDABILITY: In daily operating service, an unequalled record for bearing assembly performance.

SMOOTHEST RIDING QUALITIES: Lateral shocks are flexibly controlled — not rigidly opposed.

LOWEST ACCELERATING AND RUNNING RESISTANCE: Glides on a single film of oil, like a skater on ice.

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UNIVERSAL INTERCHANGEABILITY: Simple — dependable — economical — safe.

LIGHT WEIGHT: Saves more than 100,000 lbs. dead weight per hundred-car train.

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What Really Happened on the Long Island?

A thoughtful railroad man has written this paper a letter, commending the factual account published in our last week's issue of the disastrous collision on the Long Island Railroad on the evening of February 17. He contrasted the report published in this paper with the over-dramatization of the catastrophe by a large section of the popular press, with the conclusion that: "If this is the way they report things that I know something about, how much confidence can I have in their reporting of things I don't know about?"

Safety Installations Adequate

One or two newspapers went so far as to imply that the collision occurred because the railroad had been unduly economical in the installation of automatic stopping devices. Actually, as the report in this paper indicated, the railroad had protected this gantlet track with interlocking, and cab signals were provided to give audible repetition of the indication of the wayside signals.

As standards of safety devices go on the railroads, not only in America but other countries as well, the safety installations by the Long Island on this line appear to be definitely above rather than below the average. How far is a bankrupt railroad supposed to go in installing safety devices for the prevention of collisions? It would be mechanically possible, no doubt, to provide completely automatic operation of multiple-unit trains, thus eliminating all risk of "man-failure"—but would passengers be willing to pay fares which would reflect the cost of such protection? Obviously they would not, because on the Long Island they have not for many years paid a fair return on the investments the railroad has already made for existing plant and equipment. Moreover, if danger from "man-failure" were to be thus completely and expensively eliminated, danger from "machine-failure" would replace it.

There is no such thing as complete safety to be found anywhere this side of the grave. No other kind of transportation even makes the effort to be as safe as the railroads are. For example, other public conveyances (buses and planes) are not designed to stand up under impact the way steel cars on the railroads are. As horrible as the catastrophe on the Long Island was, the ratio of casualties to total passengers carried—injured as well as killed—was only about 13 per cent. If planes or buses had met in such a collision, fatalities would probably have been nearer 100 per cent than the 3 per cent suffered in the Long Island wreck.

It is bitterly ironical that this collision became possible because of the use of a temporary gantlet track, necessitated by a grade crossing elimination project at this point. That is, this collision occurred—not because the railroad was inattentive to safety consid-

erations—but because it was actually engaged in an installation to remove accident hazards!

It does not, of course, afford any consolation to the people injured or bereaved by this accident to tell them that the management of the railroad—when measured by the accepted standards of safety of either the railroad industry or transportation as a whole—had taken more precautions than usual rather than fewer. It will not help these poor people, either, to remind them that, if they had been doing their commuting by bus or plane, "their numbers would have come up" much sooner, statistically speaking, than they did as riders of the Long Island Railroad.

Such considerations will not and cannot comfort actual sufferers—the wounds of the one man injured under exceptional circumstances hurt him no less because there are not other thousands who share his fate. Statistics and averages and comparative safety practices by the several agencies of transportation will not promote improved relations with people actually injured, but the wider dissemination of such information, in palatable and popular form, ought to do a good deal to discourage the over-dramatization for general public consumption of such disasters as the one on the Long Island Railroad when they do occur. If the public generally knew more about such things, there would be less temptation on the part of the press to sensationalize them to a point perilously close to misrepresentation.

To Improve Public Understanding

Certainly the first step to be taken in the endeavor to improve public understanding of railroad safety performance is accurate reporting of the facts to railroad men themselves. This paper believes its policy of having editors who know railroading get straight information about these misfortunes directly from railroad men who know what happened—and limiting what we print to such dependable sources—is an indispensable service to the railroad industry, if public understanding of the situation is to be improved.

Constantly improved relations with the public and more adequate public understanding of railroad problems and accomplishments is essential if the railroads are going to continue to be permitted to function as private enterprise. It is not to be expected that the public is going to be more widely or more accurately informed on these questions than are railroad men themselves—especially railroad officers and supervisory forces. It is the primary and vital function of the press of an industry to provide such essential information, competently, accurately, and promptly—a task to which this paper is wholly dedicated. We urgently invite the suggestions and criticisms of our railway readers, to enable us to do the job progressively better.

Meantime, all of us can and should have fraternal impulses toward the people on the Long Island Railroad, who have been hit by a misfortune which—as every railroad man knows—could strike anywhere at anytime on any competently managed railroad, or in any other well-run enterprise, for that matter. The first step in inducing the public to appreciate these things is, first, for railroad men themselves to attain a deeper understanding of them, and to become more outspoken about them in their contacts with the public.

WHO IS CRYING "WOLF"?

There is hardly any subject in the railway field that has come in for more attention in recent years, and especially in recent months, than the mechanization of maintenance-of-way work. In any gathering of maintenance officers these days the conversation is almost certain sooner or later to turn to the subject of mechanization. Countless articles have been published in which the increased value, if not the necessity, of maintenance-of-way machines in view of today's high labor costs has been given a thorough airing. Advertisements of the manufacturers of such equipment have consistently hammered away at the same subject.

In view of all this publicity it would be reasonable to suppose that railway managements — the people who must approve requests for funds to buy new equipment and whose active support and cooperation are needed if work equipment is to be properly maintained and used to the best advantage — would have become aware of the value of mechanization and of the necessity of doing what is necessary to get the most out of the machines after they have been purchased. Apparently, however, this supposition, while valid in some places, does not apply everywhere — at least, not in the opinion of some maintenance officers.

On at least one recent occasion several maintenance men spoke out frankly during a meeting at which the principal speaker, a former maintenance man and now a high operating officer, addressed the group on the necessity of getting the most out of work equipment. In a candid discussion of the subject following the main address, comments from the floor indicated a belief in some quarters that managements have some things to learn on this situation, which would be advantageous to their properties. One such point is the need for authorizing adequate facilities and personnel to assure that machines once purchased will be kept in proper repair. Another is the desirability of allowing the maintenance forces the uninterrupted use of the tracks, as far as possible, during working hours. A third is the need for additional machines, where it can be shown that the savings will be sufficient to pay for the equipment after a few weeks or months of operation.

The fact that such observations are still being made by maintenance men indicates that railway managements as a whole have not yet absorbed the true and full significance of mechanization as a factor in helping them to solve their problems. Perhaps this is because maintenance officers have not, in all cases, done an effective job of telling the story. On the other hand, it could be because the long-continued efforts of these officers to get more machines have set up a "crying wolf" psychology in the minds of some managements. But maintenance men are not crying wolf without good cause — the wolf is there, and they are asking for assistance in applying a proven method of driving him away from the door.

PRICE OR QUALITY

Several years ago, before the advent of Diesel-electric motive power, many railroads obtained parts for steam locomotives and cars either through the medium of reclamation or manufacturing projects set up in their own shops, or by obtaining what might be considered standard replacement parts from suppliers other than the manufacturers of the original equipment. Sometimes the practice was followed in self-defense in order to protect service. Sometimes it was done to establish other sources of supply and thereby operated to insure competition in price. As to manufacturing in railroad shops, on the basis of railroad accounting, there was, in many cases, a definite economy as compared with the cost of purchasing parts from outside suppliers; and, in addition, the practice served to take up the slack in a labor force which had to be maintained for peak periods.

The establishment of varied sources of supply, including manufacturing in a railroad company's own shops, brought into question the quality of parts as compared with those secured from original suppliers; and there are numerous instances in the history of mechanical department operations in the past 20 to 25 years where a railroad company definitely paid in higher maintenance costs and unsatisfactory service performance for a few cents' or a few dollars' economy in the price of replacements.

It appears to be a policy in the railroad industry purposely to develop a number of sources of supply, which may be a sound objective, but not where it is done at the expense of quality. Because the builders of Diesel-electric locomotives have gone further than steam locomotive builders ever went in setting up sources of supply for replacement parts, the railroads have, as yet, not found it necessary or desirable, to any great extent, to go into manufacturing such parts in their own shops. There is, however, a definite tendency in that direction, and also a definite tendency on the part of those responsible for the purchase and use of locomotive or car parts to reach out into the manufacturing industry for as many sources of supply as possible. It is to be hoped that, as this practice expands, the precaution will be taken to consider and decide each case on its merits, for parts of inferior quality can be tremendously expensive in railroad service.

It is not possible, of course, to determine in a few months or sometimes in a few years the exact quality of a locomotive or car part in actual service. Because of this, it should be worthwhile for the railroads to look to manufacturers of established reputation for parts of quality to supply their needs. The matter of a small difference in the price of a part, when considered on a per-mile basis in a million or more miles of service, is really never worth much of a gamble with quality.

INDEX TO VOLUME 127

The index to the latest volume of *Railway Age*, July to December, 1949, is now ready for distribution, and copies may be obtained by those subscribers desiring them. Requests should be addressed to the Circulation Department, *Railway Age*, 30 Church street, New York 7. Subscribers who have in previous years made application for the index need not apply again; they will receive it as long as they continue to subscribe.

I have pointed out to you a situation where I think your tax money is being spent unsoundly and unfairly to subsidize parts of the transportation industry against the railroads. The President of the United States himself said in a letter of last August 30 to his Secretary of Commerce, that federal expenditures for highway, airway and waterway improvements and other aids were approaching a billion and a half dollars a year. I have quoted to you a statement from the federal Bureau of the Budget that governmental subsidies to civil aviation are now exceeding 300 million dollars a year. The Postmaster General, in a recent release, estimated that the postal service expenditures for the last fiscal year exceeded postal income by 550 million dollars. This deficit is being incurred principally to support a parcel post service at rates well below the rates at which the railroads can render express service. And it is being incurred by making excessive air mail payments to the air lines so they can attract passengers from your railroad. Remember, the bill is finally coming back to you, and right now you are not paying nearly enough to take care of that bill. Do you think this is a situation in which only the railroads have a selfish interest, or rather a situation in which every taxpayer in the nation has a direct interest?

—From an address by R. H. Smith, president of the Norfolk & Western, to an N. & W. "Better Service" meeting at Roanoke, Va.

BRASS TACKS FOR PULLMAN MEN

Total of 1,705 conductors and 8,048 porters get frank insight into sleeping car business at 649 conferences

If you've never sat in a room with about 500 Pullman porters and heard them "laugh with themselves" at one of themselves describing "the sleepy porter," you've missed a great deal of wisdom mixed with good fun. This reporter had that privilege recently at one of Chicago's southside "Y's," when porters from the Pullman Company's Chicago Western district met with J. P. Leach, assistant vice-president, toward the end of Pullman's fourth annual series of service conferences. It was Mr. Leach's second conference that day, and the fifty-ninth in 30 different cities directed by him in a period of over 90 days preceding.

That is quite a schedule, but there was nothing tired about the speaker's delivery and his material was as fresh and spontaneous as though it was the first speech in the tour. The porters responded in kind, with guffaws and tickled chuckles at Mr. Leach's jokes about the sleeping car business; with head-shaking expressing solemn agreement at the serious points; and with plenty of good questions and comments at the end of the talk. These porters came on their own time. Most of them had attended conferences in previous years. (It is significant that the attendance gets better every year.) Some of them were in uniform, having just come in from runs; others had to leave early to take over cars for the late afternoon "businessmen's fleet." Most were in "civvies."

The statistics of Pullman's fourth annual series of service conferences are impressive:

Conductor conferences: 280 conferences in 57 different cities, attended by a total of 1,705; percentage of attendance—99.85.

Porter conferences: 369 conferences in 61 different cities, attended by a total of 8,048; percentage of attendance—99.76.

In addition to porter and conductor participants, a total of 653 representatives from the railroads which own Pullman and use its service attended the conferences this year. Many of these observers expressed themselves as amazed at the degree to which Pullman service employees have responded to the conferences; a number asked permission for their stenographers to record Mr. Leach's remarks; and one important officer had recordings made for use as a guide for proposed employee conferences on his own railroad.

Technique Simple

Separate conferences were held for conductors and porters, in view of the fact that their responsibilities differ and one class of personnel is subordinate to the other.

This fact, however, did not bar frank discussions of each others' problems and shortcomings. Both groups discussed freely, for example, those symbols of customer-repellents dubbed "the sleepy porter" and "the silent conductor."

Facing page—J. P. Leach tells Pullman conductors how they can boost sleeping car business. At least a dozen visiting railroad officers are in this audience. Above—A Pullman porter makes a point during one of 369 conferences in the company's fourth annual series

Mr. Leach, who has personally directed and addressed 219 conferences held since the program was inaugurated in April, 1946, believes in keeping his talks peppy, up-to-the-minute, frank, and informal. He uses no notes whatever.

He takes his coat off. He doesn't talk vaguely about management, or labor, or service, or courtesy; he talks about the sleeping car business.

The contents of his talks to conductors and porters vary, and each covers points which are of interest to the particular groups. At the Chicago southside conference cited, the speaker dealt, in specific terms, with such subjects as: (1) Pullman's new contract with the railroads and how it puts each road "on its own" with regard to earnings; (2) the impossibility of conductors and porters competing with "the pretty young things on the air lines—insofar as a pretty face is concerned," but how service—in which Pullman employees have lots of "know-how"—can overcome this handicap; (3) how high costs can drive away business and destroy jobs—e.g., the fall in Railway Express traffic and substantial decrease in the car lines which Pullman can afford to operate; (4) dissatisfaction by some railroads with Pullman costs and the threat to Pullman jobs if this dissatisfaction is not proved to be unfounded; and (5) the present poor financial showing of Pullman and what employees can do about it.

"And why am I traveling all over the country to place after place, talking to men as I am here today?" asks Mr. Leach at the end. "Because I am trying to protect your job and mine, to keep this company going because I think Pullman has a future if we will all give the very best we've got."

Wide Field of Discussion

The talk sets the pitch for the conference, but the open-floor discussions which follow are of equal importance. Railroad men who attended Pullman conferences admit they were surprised at the range and depth of the subject matter discussed. At the Chicago porter meeting already noted, for example, employees did not hesitate to criticize the design of new cars for ease of bed make-down; to point out specific cases of poor train consist by operating railroads; and to question the necessity of recent boosts in both railroad and Pullman fares.

Pullman has been able to achieve this high degree of useful participation in the conferences by careful adherence to four principles ever since the program was inaugurated:

(1) Names are not included in notes of the discussions and employees know that their remarks will not be used against them.

(2) Mr. Leach gives a straightforward answer to every question directed to him and at conferences he is unable to attend the local district superintendent or conference leader answers questions; there are, in short, no "embarrassing subjects" at Pullman conferences.

(3) Every suggestion, comment or criticism made at a conference is followed through, and a "yes" or "no" answer, with the reason, is posted on bulletin boards in the districts. Since the conferences were inaugurated three years ago some 15,815 suggestions or comments have been offered by car service employees and processed through to conclusion.

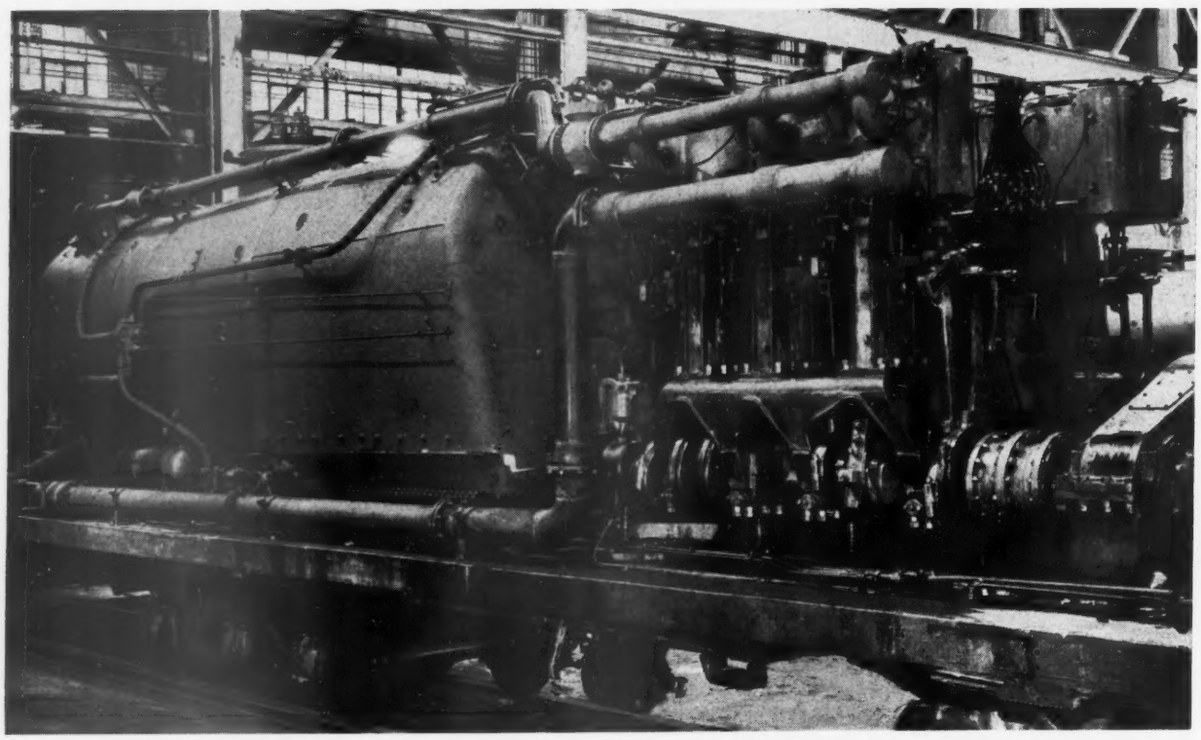
(4) The conferences are held in cooperation with local representatives of the conductors' and porters' organizations—not imposed on them. Nationwide scheduling for example, is made only after the local people at each point have been consulted, and their convenience —not that of headquarters—determines.

The basic procedures of Pullman conferences were set forth in a feature article in *Railway Age* of July 3, 1948, page 22.

Of the conferences, one conductor was heard to remark: "This is the best thing that has happened to Pullman service since they invented air-conditioning."

1,500-HP. ROTARY SNOW PLOWS

Four new Lima-Hamilton units, designed to burn Diesel fuel, will cut 12-foot path through snow—Weigh 297,000 lb.



Above—Construction view of the boiler and engine on underframe. Below—Lima-Hamilton's new rotary snow plow, the first of this kind of equipment manufactured since the war

The first of a new line of rotary snow plows built by Lima-Hamilton Corporation since the war were recently sent out from the Lima, Ohio, plant to the Union Pacific. Deliveries have also been made to the Soo Line and the Rock Island. These units weigh 297,000 lb. and have a horsepower rating of 1,500—said to be 50 per cent greater power than that of any previous snow plow of its type. They are described as the first completely new rotary plows constructed since the American Locomotive Company built one in 1937 for the Northern Pacific.

The plow, which cuts a 12-ft. path through snow, is 55 ft. 7 in. long; 16 ft. 2½ in. high and 12 ft. 0 in. wide. The wheel base of the front truck is 4 ft. 10 in. and of the rear truck, 9 ft.

The new plow has a type of oil burner which is unusual in that it will burn any oil and is especially designed to burn Diesel fuel oil. It is manufactured by Combustion Equipment Division of Todd Shipyards Corporation. The reason for burning this relatively high priced fuel is that it is the one fuel readily available at any place and at any time on the roads in question. The design is said to have resulted in the first practicable device for burning Diesel oil in such an application.

Power Plant

By employing an oil burner, Lima-Hamilton has been able to place the firebox and fireman's station in the center of the plow. Access to the tubes and superheater is obtained from the rear by disconnecting the tender. Ordinarily, the tubes and superheater on a locomotive are reached from the front, but in a snow plow, that arrangement would entail dismantling the cab at the front. In this design the builder turned the boiler around.

Two separate three-cylinder engines, which in design are identical to the engines in the Lima Pacific Coast Shay locomotives, furnish power to the plow. The engines, operating at approximately 350 r.p.m., have 13- by 15-in. piston-valve cylinders and operate on 200-lb. pressure. They have mechanical lubrication to 33 points. Since the heavy alloy steel crankshafts of the engines are parallel to the rotor shaft, straight spur gears are used, with a gear on each engine crankshaft to drive the main gear on the rotor. The gears operate in an oil bath at all times, and a flexible coupling is used between each engine crankshaft and its pinion.

In contrast to previous snow plows, which were built much like a regular locomotive with horizontal cylinders, one on each side, this design places the cylinders ahead of the boiler rather than beside it. This permits easy access for work on parts. Furthermore, in the old snow plow arrangement, since the power was developed at right angles to the track, bevel gears were required to apply the power to the rotor shaft.

Another development consists of equipping the engines with an over-speed governor limiting the rotor speed to 150 r.p.m. The governor prevents the rotor from speeding up and running away when the plow breaks through a drift. On earlier plow design, the engineman had to cut back the throttle in such a case, and frequently could not see, from his position in the cab, that the plow was breaking out of a drift. The governor is driven from one crankshaft of one engine and operates Pickering auxiliary throttles, one for either side, independent of the engineer's regular throttle.

Rotor Design

The blades of the rotor are heat-treated manganese-molybdenum steel, with cutting edges finished and flame-hardened to chisel sharpness. On earlier designs, rotor blades were of medium carbon cast steel. Both engine and wheel are completely reversible, capable of running in either direction to throw snow to either side of the plow.

The rotor is mounted in Timken roller bearings including a thrust bearing on the rotor shaft, located just ahead of the main drive gear, which has an inside diameter of 12 in. and an outside diameter of 25½ in., and is 5½ in. long.

Among other features of the Lima-Hamilton snow plow is the four-wheel front truck, with double springs over each box and a bolster equipped with 17 springs. Provision is made for blocking out of action the springs over the boxes, thus locking the truck so that it is entirely rigid when plowing. Previously both trucks on snow plows have been rigid with no springs over boxes and no equalization. This was necessary because the flangers, when plowing, are only ½ in. from the rail, and any spring action would cause them to hit the rail.

In this snow plow the riding qualities are satisfactory with springs unblocked, and the springs still can be blocked out of action when plowing is begun.

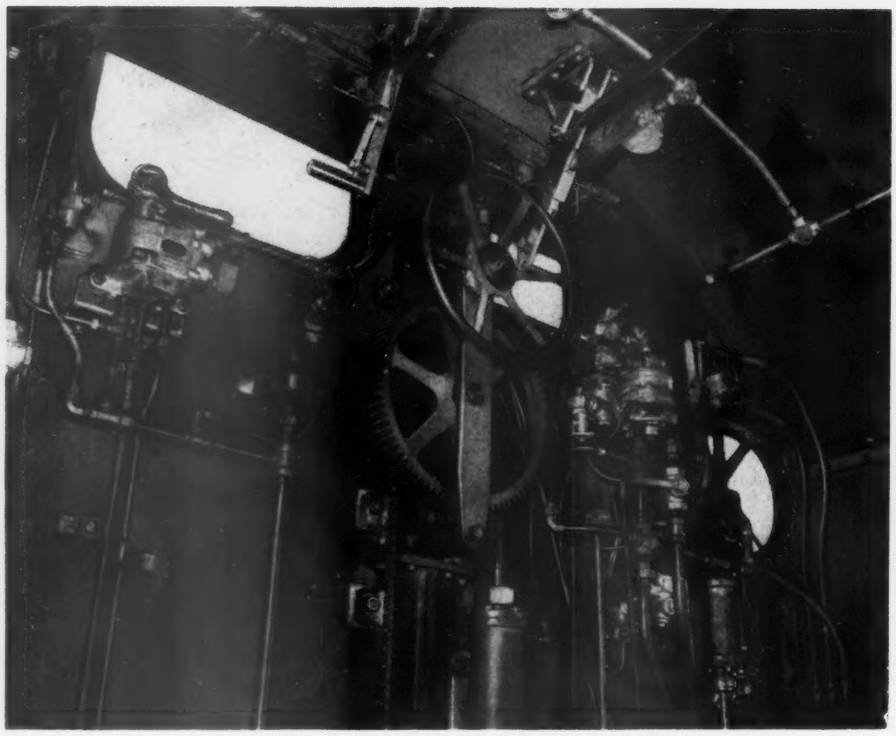
Other Features

The rear truck is a completely equalized, rigid bolster, six-wheel unit. All wheels on both trucks are 33-in. steel. There are brake shoes on the front and back wheels of the six-wheel truck and on all wheels on the four-wheel truck.

The main frame and the machinery are of completely welded design, made at the United Welding Company Division of Lima-Hamilton, at Middletown, Ohio.

The plow has two headlights, port-hole type windows, a passage on both sides for the full length of the plow, and a walkway the full length of the roof with ladders front and back. Hatches over engines and air pumps simplify maintenance. There are clothes lockers for the crew at the rear end of the house cab. Sliding doors are provided throughout the equipment.

A lining of ¼-in. Insulmat, sprayed onto the steel, keeps the steam-heated cab from sweating. Windows are of shatter-proof glass, set in rubber. A full width seat is provided in the engineman's cab for three persons, with two operating positions. Both operating positions have throttle and brake levers, but only the right hand position has the reverse lever. The wheel controlling the snow deflector is operated by air from the central position. Cylinder cocks are air- and steam-operated from the operator's cab. A radial buffer is used between plow and tender. In the fireman's compartment, between the engine and the boiler, there is a seat for the fireman, with an injector, gages and other controls.



The cab controls — The throttles and brake valves are on right and left sides; the reverse is on the right side only and the center control, with gear, is for changing the direction of the snow chute

Partial List of Materials and Equipment on the Lima-Hamilton Snow Plow

Boiler plates	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Lagging	Johns-Manville Sales Corp., New York
Flexible staybolts	Flannery Bolt Co., Bridgeville, Pa.
Tubes and flues	National Tube Co., Pittsburgh, Pa.
Washout plugs	Huron Manufacturing Co., Detroit, Mich. Prime Manufacturing Co., Milwaukee, Wis.
Firebrick	Brandon Equipment Co., Chicago
Superheater	Superheater Div. of Combustion Engineering-Superheater, Inc., New York
Low water alarm; blower fittings	Barco Manufacturing Co., Chicago*
Main frame and machinery frame	United Welding Co., Middletown, Ohio
Injectors	Nathan Manufacturing Co., New York*
Truck, brakeshoes, throttle	Lima-Hamilton Corp., Lima, Ohio
Back truck	General Steel Castings Corp., Granite City, Ill.
Truck journal bearings:	
Front truck	Magnus Brass Manufacturing Co., Cincinnati, Ohio Magnus Metal Corp., New York
Back truck	National Bearing Metals Corp., St. Louis, Mo.
Rotor shaft bearings	Timken Roller Bearing Co., Canton, Ohio
Pinion shaft bearings	Timken Roller Bearing Co., Canton, Ohio
Couplers	National Malleable & Steel Castings Co., Cleveland, Ohio
Truck wheels	Armco Steel Corp., Middletown, Ohio
Coil springs	American-Fort Pitt Spring Div. of H. K. Porter Co., Pittsburgh, Pa.
Piston rod packing	Paxton-Mitchell Co., Omaha, Neb.
Power reverse gear	Franklin Railway Supply Co., New York
Operating brake	Westinghouse Air Brake Co., Wilmerding, Pa.
Brake shoe, back truck	American Brake Shoe & Foundry Co., New York
Brake beams, back truck	American Steel Foundries, Chicago
Injector check	Nathan Manufacturing Co., New York
Steam gages	Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
W.O.A. water column and gage cocks, boiler	Nathan Manufacturing Co., New York
Remote control water gage, crew cab	Reliance Gauge Column Co., Cleveland, Ohio*
Water gage, back head of boiler	Nathan Manufacturing Co., New York
Safety valves (consolidated)	Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Hand brake	Ajax-Consolidated Co., Chicago
Valves, angle and globe, drain cocks; pipe fittings	Crane Co., Chicago
Snow flanger and ice pick cylinder operating valves	William Powell Co., Cincinnati, Ohio
Windows, safety glass	Ohio Plate Glass Co., Toledo, Ohio
Window self-locking weather strips	Inland Manufacturing Div. of General Motors Corp., Dayton, Ohio
Cab ventilator	Prime Manufacturing Co., Milwaukee, Wis.
Headlight and generator	Pyle-National Co., Chicago
Radial buffer	Franklin Railway Supply Co., New York
Steam governor	Pickering Governor Co., Portland, Conn.
Rotor shaft (manganese vanadium)	Standard Steel Works, Burnham, Pa.
Communication apparatus (telephone)	U. S. Instrument Corp., Summit, N. J.
Fusible plugs	Nathan Manufacturing Co, New York
Smoke box inspection plugs	Prime Manufacturing Co., Milwaukee, Wis.
Truck boxes	National Malleable & Steel Castings Co., Cleveland, Ohio
Dust guards	Ajax-Consolidated Co., Chicago
Cab insulation	J. W. Mortell Co., Kankakee, Ill.
Cab windshield wiper	Charles A. Sprague Devices, Michigan City, Ind.
Blow-off cock	Okadee Co., Chicago
Cylinder cocks	Prime Manufacturing Co., Milwaukee, Wis.
Oil burner	Combustion Equipment Div. of Todd Shipyards Corp., Elmhurst, N. Y.
Hancock universal joints	Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Pipe covering	Union Asbestos & Rubber Co., Chicago
Steam whistle	Nathan Manufacturing Co., New York
Air crew signal whistle	Union Switch & Signal Co., Swissvale, Pa.
Air crew signal operating valve	Viloco Railway Equipment Co., Chicago
Flexible coupling, pinion shafts	D. O. James Gear Manufacturing Co., Chicago
Flexible coupling to governor	Ajax Flexible Coupling Co., Westfield, N. Y.
Universal joints—governor	Charles Bond Co., Philadelphia, Pa.
Alemite fittings	Prime Manufacturing Co., Milwaukee, Wis.
Main drive and pinion gears	Illinois Gear & Machine Co., Chicago
Gear case air filter	Fram Corporation, Providence, R. I.
Cab lamps and electrical fixtures	Pyle-National Co., Chicago
Running board top of car	Apex Railway Products Co., Chicago*

*This company furnished equipment on one or more of the four units

STREAMLINERS EARN MORE THAN EVER

Coverdale-Colpitts survey shows 58 streamliners—grossing nearly $100 million—converted 50 per cent of revenue into net

The streamline train, which was heralded a decade ago for its ability to make passenger runs profitable, is a better earner than ever, according to information revealed in a detailed survey—the seventh of its kind—just completed for the Budd Company by the engineering firm of Coverdale & Colpitts. The operation of 58 named streamliners, on 20 railroads, for which the re-

(*Continued on page* 50)

OPERATING REVENUES, EXPENSE AND NET, 58 STREAMLINERS

	"CHESHIRE" B. & M. Boston-White River Jc. 1 train, 3 cars, 1 rd.-trip Mon-Fri, one-way Sat. and Sun.	"PEORIA ROCKET" C. R. I. & P. Chicago-Peoria 1 train, 6 cars, 2 rd.-trips daily	"DES MOINES ROCKET" C. R. I. & P. Chicago-Des Moines, 1 train, 6 cars, 1 rd.-trip daily	"TEXAS ROCKET" C. R. I. & P. Kansas City-Dallas, 2 trains, 5 cars, ea. one-way trip daily	"ROCKY MOUNTAIN ROCKET" C. R. I. & P. Chicago-Denver 2 trains, 10 cars, ea. one-way trip daily	"CHOCTAW ROCKET" C. R. I. & P. Memphis-Amarillo, 2 trains, 5 cars, ea. one-way trip daily	"ZEPHYR ROCKET" C. R. I. & P. Burlington-Minneapolis, 2 trains, 7 cars, ea. one-way trip daily
	1948	1948	1948	1948	1948	1948	1948
GROSS REVENUE	$166,769	$805,370	$818,703	$965,193	$3,042,161	$948,283	$736,559
Gross Revenue per Train-Mile	1.83	3.42	3.12	1.93	3.59	1.72	2.75
Expenses, per Train-Mile							
Crew Wages	.66	.46	.48	.44	.51	.46	.53
Fuel	.05	.13	.18	.16	.29	.14	.22
Power Plant Maintenance	.16	.14	.14	.19	.26	.22	.13
Train Maintenance	.17	.23	.25	.18	.29	.17	.22
Total Train Expenses[1]	100,041	[2]284,363	[2]320,485	[2]594,980	[2]1,351,684	[2]642,076	[2]394,107
Total Train Expenses per Train-Mile	1.10	[2]1.21	[2]1.22	[2]1.19	[2]1.59	[2]1.16	[2]1.47
NET REVENUE	66,728	521,007	498,218	370,213	1,690,477	306,207	342,452
Net Revenue per Train-Mile	.73	2.21	1.90	.74	2.00	.56	1.28
Per Cent of Gross Retained as Net	40.0	64.7	60.9	38.4	55.6	32.3	46.5
ROUTE-MILES	153	161	358	681	1,162	761	366

[1] Includes train supplies and expense, and dining car and buffet losses. [2] Includes trackage, turning, piloting, running repairs, back shop repairs and accidents

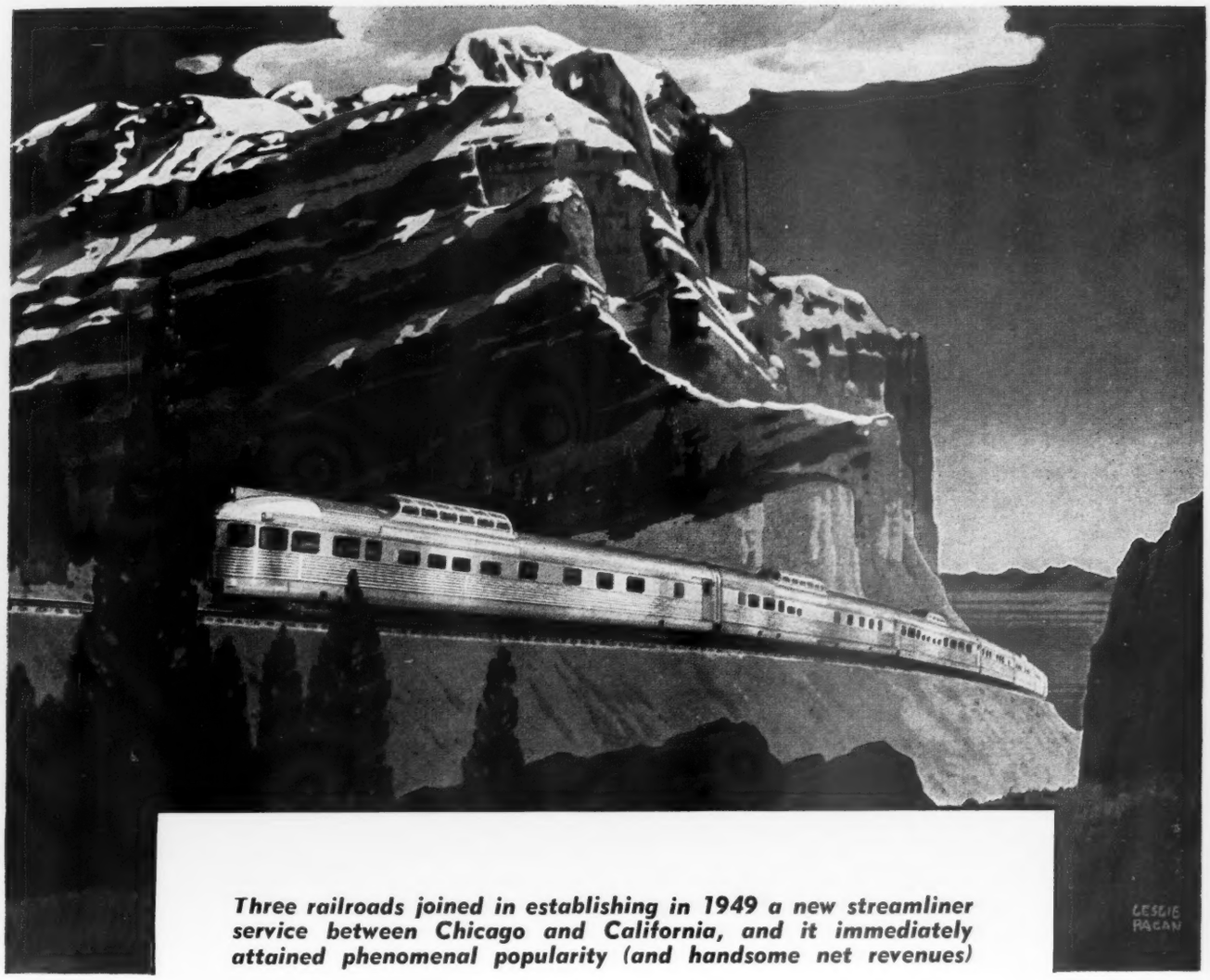
Cars built by Pullman-Standard, American Car & Foundry, the Budd Company and its own shops are included in the postwar fleet of streamliners in service on the Pennsylvania

Color illustrations courtesy of the Budd Company

OPERATING REVENUES, EXPENSE AND NET, 58 STREAMLINERS

	"TWIN STAR ROCKET" C. R. I. & P. Minneapolis-Houston, 3 trains, 7 cars, ea. one-way trip daily	"CORN BELT ROCKET" C. R. I. & P. Omaha-Chicago 1 train, 9 cars, eastbound only, daily	"CHAMPION" F. E. C. Jacksonville-Miami, 3 trains, 15 cars, ea. one-way trip daily	THREE CHICAGO-MIAMI STREAMLINERS F. E. C. Jacksonville-Miami, 3 trains, 7 cars, ea. one rd.-trip every third day	"TEXAS SPECIAL" S. L.-S. F. St.Louis-Vinita, 3 trains, 12 cars, ea. one-way trip daily	"TEXAS SPECIAL" M.-K.-T. Vinita-San Antonio 3 trains, 12 cars, ea. one-way trip daily	"METEOR" S. L.-S. F. St. Louis-Oklahoma City, 2 trains, 12 cars, ea. one-way trip daily
	1948	1948	1948	1947	7 mo. 16 da. end. 12/31/48	Yr. ending 5/31/49	7 mo. 16 da. end. 12/31/48
GROSS REVENUE	$3,171,297	$637,336	$1,914,710	$957,068	$978,210	$1,755,019	$866,478
Gross Revenue per Train-Mile	3.18	3.46	7.56	3.79	5.90	3.87	3.46
Expenses, per Train-Mile							
Crew Wages	.48	.51	.74	.50	.54	.51	.53
Fuel	.18	.24	.41	.15	.33	.36	.33
Power Plant Maintenance	.13	.30	.35	.21	.23	.42	.23
Train Maintenance	.26	.29	1.04	.30	.20	.36	.19
Total Train Expenses[1]	[2]1,279,390	[2]286,939	[3]851,401	[3]388,319	321,832	910,138	452,497
Total Train Expenses per Train-Mile	[2]1.28	[2]1.56	[3]3.36	[3]1.54	1.94	2.01	1.81
NET REVENUE	1,891,907	350,397	1,063,309	568,749	656,378	844,881	413,981
Net Revenue per Train-Mile	1.90	1.90	4.20	2.25	3.96	1.86	1.65
Per Cent of Gross Retained as Net	59.7	55.0	55.5	59.4	67.1	48.1	47.8
ROUTE-MILES	1,362	503	346	346	361	621	542

[1] Includes train supplies and expenses, and dining car and buffet losses.
[2] Includes terminal expenses, equipment rentals, running and general repairs.
[3] Includes trackage, turning, piloting, running repairs, back shop repairs and accidents.



Three railroads joined in establishing in 1949 a new streamliner service between Chicago and California, and it immediately attained phenomenal popularity (and handsome net revenues)

"CITY of ST. LOUIS" WABASH St. Louis-Kansas City trains, 11 cars, ea. one-way trip daily	**"CITY of KANSAS CITY"** WABASH St. Louis-Kansas City 1 train, 7 cars, one rd.-trip daily	**"MISSOURI RIVER EAGLE"** M. P. St. Louis-Omaha 2 trains, 6 cars, ea. one-way trip daily	**"DELTA EAGLE"** M. P. Memphis-Tallulah 1 train, 2 cars, one rd.-trip daily	**"COLORADO EAGLE"** M. P. St. Louis-Denver 2 trains, 9 cars, ea. one-way trip daily	**"VALLEY EAGLE"** M. P. Houston-Brownsville 2 trains, 5 cars, ea. one-way trip daily	**"WEST TEXAS EAGLE"** M. P. St. Louis-Texarkana 2 trains, 11 cars, ea. one-way trip daily	**"WEST TEXAS EAGLE"** T. & P. Texarkana-El Paso 2 trains, 11 cars, ea. one-way trip daily	**"SOUTH TEXAS EAGLE"** M. P. St. Louis-San Antonio 2 trains, 14 cars, ea. one-way trip daily
1948	**1948**	**1948**	**1948**	**1948**	**2 mo. ending 12/31/48**	**4 mo. 17 da. end. 12/31/48**	**4 mo. 17 da. end. 12/31/48**	**4 mo. 17 da. end. 12/31/48**
$966,523	**$569,455**	**$1,188,619**	**$209,626**	**$2,360,075**	**$66,870**	**$1,324,700**	**$906,600**	**$1,326,249**
4.64	**2.80**	**3.56**	**1.15**	**3.69**	**1.47**	**3.66**	**3.78**	**4.26**
.48	.43	.55	.40	.48	.52	.52	.56	.52
.33	.23	.23	.14	.35	.13	.32	.30	.25
.31	.29	.22	.22	.35	.08	.17	.18	.14
.50	.40	.30	.14	.20	.07	.08	.10	.05
[4]575,118	[4]479,560	[13]521,625	[13]191,319	[13]990,966	[13]40,583	[13]481,675	[13]325,046	[13]373,045
[4]2.76	[4]2.36	[13]1.56	[13]1.05	[13]1.55	[13].89	[13]1.28	[13]1.36	[13]1.20
391,405	89,895	666,994	18,307	1,369,109	26,287	892,325	581,554	953,204
1.88	.44	2.00	.10	2.14	.58	2.38	2.42	3.06
40.5	15.8	56.1	8.7	58.0	39.3	64.9	64.1	71.9
278	278	478	259	892	372	493	863	1,034

[4] Includes engine house expenses, terminal and trackage costs and running repairs. [13] Includes general or back shop repairs.

(*Continued from page 47*)
port sets forth complete records of both revenues and expenses, grossed $97,751,735, and netted, after "out-of-pocket" costs, $48,585,351—a return of 49.7 per cent of the gross—in the period covered by the report.

6% of Train-Miles Earn 10% of Revenues

The total miles run by the 58 streamliners for which details are available equals 6.1 per cent of total passenger train-miles on all Class I railways. The earnings equal 9.9 per cent of the total passenger revenues. Train-miles and earnings of the 58 trains compared with the passenger train-miles and revenues of all Class I railroads in 1948 as follows:

	Class I Railways (000)	58 Streamliners (000)	Streamliners Per Cent of Total
Train-miles	407,133	24,879	6.1
Revenue (incl. commutation, head-end, Pullman, etc.)	$1,300,367	$97,752	7.5
Passenger Revenue (other than commutation)	888,000	88,711	9.9

Average revenue per train-mile of the 58 streamliners was $3.93, including mail, express, baggage and Pullman contract revenue; the average revenue per train-mile from passengers alone was $3.57; the average out-of-pocket cost per train-mile was $1.98, and the average net per train-mile was $1.95.

A continuous table across the bottom of this eight-page article gives significant details of earnings, expenses and net for the 58 streamliners—about one-third of the nation's named streamline trains. Because some of the trains run over two or more railroads, there are 62 entries. The information is not available, in some cases, for the entire runs of the trains, but only for their runs over one or two of the railroads making up the route.

The periods of time covered by the statistics are not always identical—some are for periods of more, or less, than a full year—but, in general, the information coincides with the year 1948. The exact period covered for each train is indicated in the table with the individual entry.

Revenues shown include earnings from head-end business and Pullman contracts, as well as straight passenger revenue. Expenses are, for the most part, those which the individual railroad considers "out-of-pocket" costs for providing the service; i. e., costs which would be eliminated if the train were not operated. Net revenue is the "profit" after the out-of-pocket expenses are deducted from the revenues. These "profits" do not take into account "allocated" costs, which, under the Interstate Commerce Commission formula for determining the cost of operating passenger trains, would be charged toward maintenance of the railroad plant.

Of the trains covered in the report, nine of them (the "Peoria Rocket," the "Des Moines Rocket," the "Texas Rocket," the "Morning Hiawatha," the "Afternoon Hiawatha," the "Twin Zephyrs," the "Abraham Lincoln," the "Ann Rutledge," and the "Silver Meteor") ran in the same service in 1948 as they had run prewar, in the year which ended June 30, 1940. As shown in Chart I, the gross from the operation of these nine trains increased from $7,479,658 in the 1939-40 period to $18,526,860 in 1948, a rise of 148 per cent; the direct cost of operation increased 197 per cent, from $2,764,062 to $8,216,714, and the net revenue increased 119 per cent, from $4,715,596 to $10,310,146.

Two trains which stand out because of their improved showing are the "Peoria Rocket" of the Rock Island and the "Twin Zephyrs" of the Burlington. The former, a six-car, semi-articulated train, powered by a 2,000-hp. General Motors Diesel, was built by the Budd Company in 1937 and placed in service on September 19 of that year. The train, running as a unit, makes two round-trips daily, running up 644 train-miles each day—at an average speed in excess of 60 m.p.h.—on a schedule carefully planned to attract the maximum travel. Passenger mileage on these "Rockets" was 85 per cent greater in 1948 than in 1939. The net revenue, after out-of-pocket costs, from operation of the "Peoria Rocket" rose from $255,847 in the year ending June 30,

OPERATING REVENUES, EXPENSE AND NET, 58 STREAMLINERS

	"SOUTH TEXAS EAGLE" T. & P. Texarkana-Longview 2 trains, 14 cars, ea. one-way trip daily	"LOUISIANA EAGLE" T. & P. Ft. Worth-New Orleans 2 trains, 15 cars, ea. one-way trip daily	"DIXIE FLAGLER" N. C. & St. L. Nashville-Atlanta 1 train, 7 cars, Rd. trip every 3 days	"GEORGIAN" N. C. & St. L. Nashville-Atlanta 2 trains, 11 cars ea. one-way trip daily	"CITY of MEMPHIS" N. C. & St. L. Memphis-Nashville 1 train, 5 cars, rd. trip daily	"SOUTHERNER" SOUTHERN New York-New Orleans 3 trains, 8 cars, ea. one-way trip daily	"TENNESSEAN" SOUTHERN Washington-Memphis 3 trains, 12 cars, ea. one-way trip daily
	4 mo. 17 da. end. 12/31/48	2 mo. 22 da. end. 12/31/48	1948	7 mo. ending 12/31/48	1948	1948	1948
GROSS REVENUE	$141,630	$271,201	$289,657	$437,209	$329,900	$3,742,345	$2,654,184
Gross Revenue per Train-Mile	5.72	2.96	4.12	3.56	1.89	4.42	4.94
Expenses, per Train-Mile							
Crew Wages	.57	.51	.62	.47	.41	.60	.56
Fuel	.34	.49	.36	.37	.26	.25	.48
Power Plant Maintenance	1.84	.33	.36	.16	.40	.27	.27
Train Maintenance	.05	.10	.22	.18	.13	.17	.22
Total Train Expenses[1]	[13]29,737	150,442	[10]143,008	[10]226,053	358,321	1,155,550	952,386
Total Train Expenses per Train-Mile	[13]1.20	1.64	[10]2.03	[10]1.84	2.05	1.37	1.77
NET REVENUE	111,893	120,759	146,649	211,156	d 28,421	2,586,795	1,701,798
Net Revenue per Train-Mile	4.52	1.32	2.09	1.72	d .16	3.05	3.17
Per Cent of Gross Retained as Net	79.0	44.5	50.6	48.3	d 8.6	69.1	64.1
ROUTE-MILES	89	553	287	287	238	1,157	724

[1] Includes train supplies and expenses, and dining car and buffet losses.
[10] Includes running repairs, engine house expenses, terminal costs and advertising
[13] Includes general or back shop repairs.

1940, to $521,007 in 1948. The per cent of gross retained as net rose from 64.5 to 64.7, despite substantial increases in expenses. The initial cost of the "Peoria Rocket," including the locomotive, was $668,987. The replacement cost would be about $1 million. The train grossed eight-tenths of its replacement value, and *netted* about half of the cost of a new train, in 1948.

The "Twin Zephyrs" were placed in service between Chicago and the Twin Cities, 441 mi., on April 21, 1935, as three-car articulated stainless-steel streamliners, each train making a round-trip daily. On December 18, 1936, the original trains were assigned to other service, and new, eight-car "Zephyrs" were placed on the run. On December 17, 1947, two seven-car trains, including four vista-dome coaches and a dome parlor car each, were placed in service. (The new seven-car vista-dome trains have 406 salable and 48 non-salable seats, whereas the older eight-car trains had 222 salable and 76 non-salable seats.) During representative months of 1948, passengers per train-mile equaled 67 per cent of the salable seats. The "Twin Zephyrs" returned a net of $657,294—59 per cent of the gross—in the year ended June 30, 1940. In 1948, they netted $2,518,700—72.4 per cent of the gross.

Streamliner Net—1947 vs. 1948

Study of the engineers' report indicates that, while the railroads' total passenger revenues declined, the gross earnings of streamliners have gained. Thirty-two trains covered by the report, for which comparative data are available for 1947 and 1948, present the following comparison:

	1948	1947	Per Cent Increase, 1948 over 1947
Gross revenues	$56,086,487	$53,909,092	4.4
Total expense*	27,364,318	23,874,242	14.6
Net revenue	28,722,169	30,034,850	Dec. 4.4

*Includes crew wages, fuel, lubricants, train supplies and expenses, power plant and train maintenance, dining and buffet losses, and, in most cases, enginehouse expenses, general and back shop repairs, water and other supplies for locomotives, joint terminal expenses, trackage costs, railroad retirement taxes and vacation costs.

These 32 trains produced, in 1948, 37,634 train-miles daily, or about 22 per cent of the total daily streamline train mileage, so that they portray a fairly representative performance of the modern trains. Of the 32 individual trains, 22 had higher gross revenues in 1948 than in 1947. Unfortunately, all had higher operating expenses, and the benefits of the increased earnings of the 22 trains carried through to an increased net on only 10 trains.

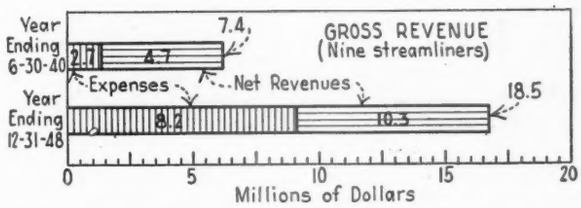


Chart I—The annual gross revenues, expenses and net revenues for nine streamliners which were in operation in 1939-1940 had increased more than 100 per cent by 1948

Coverdale & Colpitts found that many large railroads operating important streamline trains have not resumed the prewar practice of keeping accounts and statistics relating to individual trains—that data is not as readily available as it was for its six prior surveys. Nevertheless, the engineering firm feels that "while the report would be more informative were we able to present performance statements for all of the streamline trains now in operation, those for which the figures are available to us are sufficient in number and importance to represent, we believe, a fair cross-section of the whole service." The 58 trains for which important data are available represent about one-third of the named streamliners.

Postwar Traffic Outlook

The Coverdale & Colpitts survey cites prewar and postwar passenger traffic statistics, and by them points out the striking fact that, despite the marked reduction in traffic since the war period:

(*Continued on page* 54)

"COLUMBIAN" B. & O. Chicago-Washington 2 trains, 9 cars, ea. one-way trip daily	"ROYAL BLUE" B. & O. Jersey City-Washington 1 train, 9 cars, rd.-trip daily	"CAPITOL" B. & O. Jersey City-Chicago 3 trains, 15 cars, ea. one-way trip daily	"NATIONAL" B. & O. Jersey City-St. Louis 4 trains, 12 cars ea. one-way trip daily	"CINCINNATIAN" B. & O. Washington-Cincinnati 2 trains, 5 cars, ea. one-way trip daily	"MAN O' WAR" C. of G. Atlanta-Columbus 1 train, 4 cars, Two rd.-trips daily	"NANCY HANKS, II" C. of G. Atlanta-Savannah 1 train, 5 cars, Rd.-trip daily	"AFTERNOON HIAWATHA" MILW. Chicago-Twin Cities 2 trains, 12 cars, ea. one-way trip daily	"MORNING HIAWATHA" MILW. Chicago-Twin Cities 2 trains, 14 cars, ea. one-way trip daily
1948	1948	1948	1948	1948	1948	1948	1948	1948
$2,061,451	$541,216	$3,889,960	$3,176,688	$756,084	$286,002	$438,208	$2,172,137	$2,123,248
3.63	3.28	5.30	3.94	1.79	1.67	2.03	7.03	6.87
.51	.62	.53	.58	.45	.46	.47	.69	.72
.23	.23	.31	.25	.39	.17	.19	.38	.39
[6].28	[6].32	[6].38	[6].28	[6].45	.11	.11	.40	.40
.48	.48	.17	.34	.28	.07	.09	.63	.68
1,101,755	350,905	1,351,753	1,538,463	821,783	[7]221,442	[7]230,961	[8]966,926	[8]969,276
1.94	2.13	1.84	1.91	1.95	[7]1.29	[7]1.07	[8]3.13	[8]3.14
959,696	190,311	2,538,207	1,638,225	d 65,699	64,560	207,247	1,205,211	1,153,972
1.69	1.15	3.46	2.03	d .16	.38	.96	3.90	3.74
46.6	35.2	65.3	51.6	d 8.7	22.6	47.3	55.5	54.4
774	224	998	1,101	577	117	294	422	422

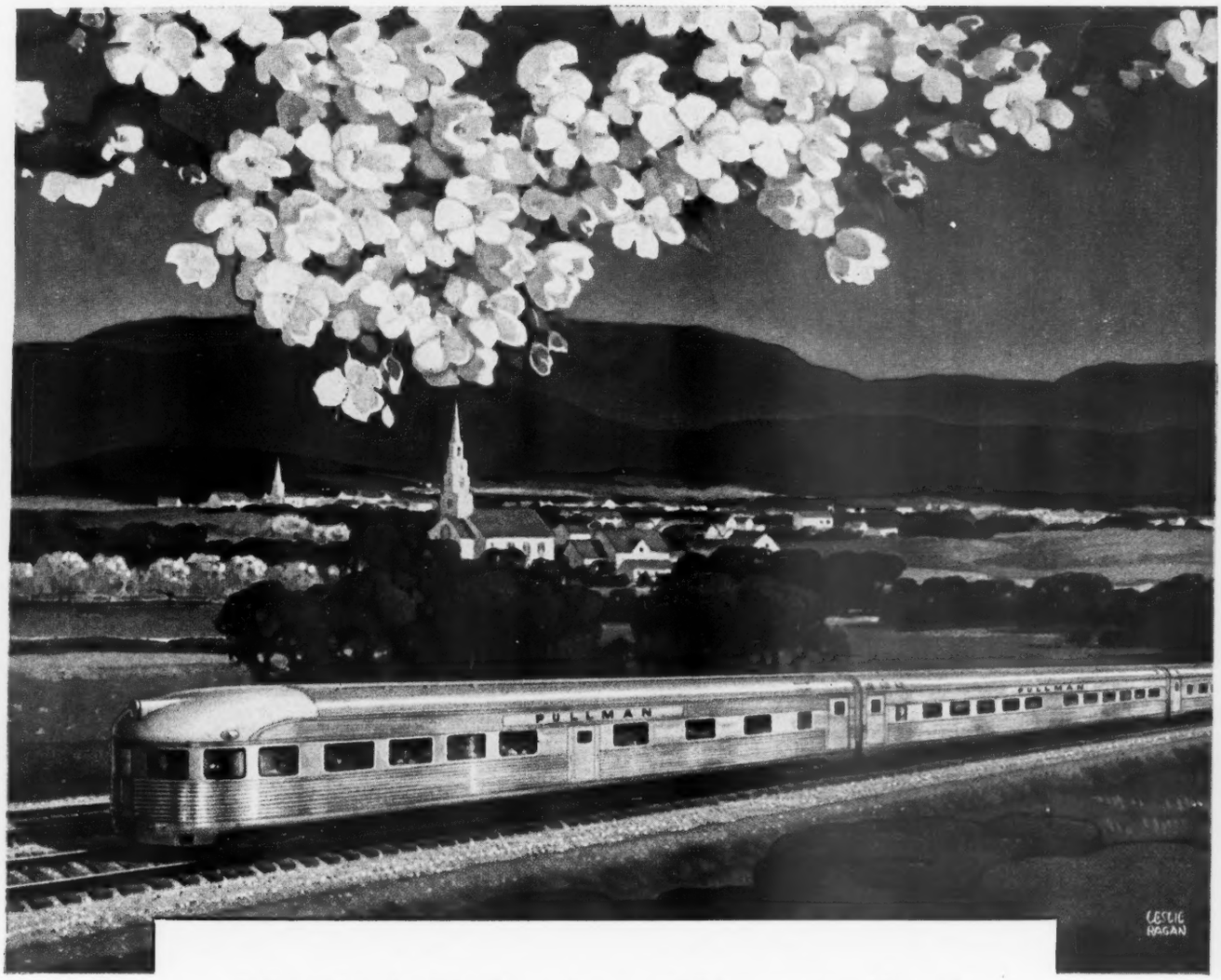
[6] Includes running and back shop repair costs. Engine house expenses excluded.
[7] Includes terminal expenses and trackage costs.
[8] Includes running and back shop repairs, engine house expenses, supplies for locomotives, vacation allowances, terminal expenses, payroll taxes, etc.

New equipment was put in service in 1949 in the New York-New Orleans all-coach "Southerner," a successful streamliner since its inauguration in 1941, which nets $3.05 per train-mile

OPERATING REVENUES, EXPENSE AND NET, 58 STREAMLINERS

	"MIDWEST HIAWATHA" MILW. Chicago-Sioux Falls 2 trains, 10 cars, ea. one-way trip daily	"OLYMPIAN HIAWATHA" MILW. Chicago-Tacoma 6 trains, 10 cars, ea. one-way trip daily	"TWIN ZEPHYRS" C. B. & Q. Chicago-Twin Cities 2 trains, 7 cars, ea. one-rd.-trip daily	"NEBRASKA ZEPHYR" C. B. & Q. Chicago-Lincoln 2 trains, 8 cars, ea. one-way trip daily	"ZEPHYR 9902" C. B. & Q. Chicago-Hannibal 1 train, 4 cars, rd.-trip daily	"CALIFORNIA ZEP	
						C. B. & Q. Chicago-Denver 6 trains, 11 cars, ea. train makes	D. & R. G. W. Denver-Salt Lake City 6 trains, 11 cars, a one-way trip e
	1948	1948	15 mo. ending 6/30/49	19 mo. ending 6/30/49	23 mo. ending 6/30/49	3 mo. 12 da. end. 6/30/49	3 mo. 12 da. end. 6/30/49
GROSS REVENUE	$1,609,966	$5,906,767	$3,479,628	$1,483,069	$708,926	$890,681	$471,459
Gross Revenue per Train-Mile	3.29	3.62	4.37	2.32	1.69	4.19	4.04
Expenses, per Train-Mile							
Crew Wages	.60	.55	.43	.45	.39	.50	.56
Fuel	.48	.35	.16	.10	.06	.39	.43
Power Plant Maintenance	.30	.42	.21	.13	.12	.40	.25
Train Maintenance	.41	.42	.10	.09	.05		
Total Train Expenses[1]	[5]$1,124,149	[8]$3,947,345	[5]960,928	[5]661,263	[5]387,415	[9]381,781	[10]311,018
Total Train Expenses per Train-Mile	[5]2.30	[8]2.42	[5]1.21	[5]1.04	[5] .92	[9]1.80	[10]2.66
NET REVENUE	485,817	1,959,422	2,518,700	821,806	321,511	508,900	160,441
Net Revenue per Train-Mile	.99	1.20	3.16	1.28	.77	2.39	1.38
Per Cent of Gross Retained as Net	30.2	33.2	72.4	55.4	45.3	57.1	34.0
ROUTE-MILES	669	2,228	441	551	281	1,036	570

[1] Includes train supplies and expenses, and dining car and buffet losses.
[5] Includes terminal expenses and cost of protection with steam power.
[8] Includes running and back shop repairs, engine house expenses, supplies for locomotives, vacation allowances, terminal expenses, payroll taxes, etc.
[9] Includes terminal expenses, payroll taxes and vacation allowances.
[10] Includes running repairs, engine house expenses, terminal costs and advertising.



Orders placed with the major car builders are enabling the New York Central to add 721 postwar cars to its main-line fleet of modern high-net-revenue producing streamline trains

HYR" W. P. Salt Lake City-Oakland 6 trains, 11 cars, ach day	**"ABRAHAM LINCOLN"** G. M. & O. Chicago-St. Louis 1 train, 13 cars, Rd.-trip daily	**"ANN RUTLEDGE"** G. M. & O. Chicago-St. Louis 1 train, 10 cars, Rd.-trip daily	**"GULF COAST REBEL"** G. M. & O. St. Louis-Mobile 2 trains, 8 cars, ea. one-way trip daily	**"REBEL"** G. M. & O. St. Louis-New Orleans 3 trains, 4 cars, ea. one-way trip daily	**"SILVER METEOR"** S. A. L. Richmond-Miami-St. Petersburg 3 trains, 17 cars, ea. one-way trip daily	**"SILVER STAR"** S. A. L. Richmond-Miami-St. Petersburg 3 trains, 17 cars, ea. one-way trip daily	**"SILVER COMET"** S. A. L. Richmond-Birmingham 3 trains, 13 cars, ea. one-way trip daily	**"MORNING DAYLIGHT"** S. P. San Francisco-Los Angeles 2 trains, 19 cars, ea. one-way trip daily
3 mo. 12 da. end. 6/30/49	**Yr. ending 5/31/49**	**Yr. ending 5/31/49**	**Yr. ending 5/31/49**	**Yr. ending 5/31/49**	**1948**	**9 mo. 1 da. end. 12/31/48**	**1948**	**1948**
$671,814	**$1,607,435**	**$1,109,447**	**$1,114,546**	**$531,139**	**$5,445,699**	**$2,883,348**	**$2,212,421**	**$2,973,930**
3.55	**7.75**	**5.35**	**2.32**	**.96**	**6.25**	**4.72**	**4.03**	**8.64**
.57	**.64**	**.57**	**.52**	**.33**	**.61**	**.59**	**.58**	**.81**
.22	**.36**	**.32**	**.19**	**.07**	**.42**	**.36**	**.37**	**.47**
.42	**.34**	**.31**	**.20**	**.12**	**.39**	**.35**	**.36**	**.55**
	.86	**.77**	**.47**	**.18**	**.46**	**.40**	**.41**	**.90**
[11]**426,713**	[12]**840,302**	[12]**762,597**	[12]**952,549**	[12]**520,164**	**2,516,857**	**1,513,502**	**1,351,504**	**1,373,900**
[11]**2.26**	[12]**4.05**	[12]**3.68**	[12]**1.98**	[12] **.94**	**2.89**	**2.48**	**2.46**	**3.99**
245,101	**767,133**	**346,850**	**161,997**	**10,975**	**2,928,842**	**1,369,846**	**860,917**	**1,600,030**
1.29	**3.70**	**1.67**	**.32**	**.02**	**3.36**	**2.24**	**1.57**	**4.65**
36.5	**47.7**	**31.3**	**14.5**	**2.1**	**53.8**	**47.5**	**38.9**	**53.8**
925	**284**	**284**	**648**	**751**	**1,960**	[14]**1,960**	**750**	**470**

[11] **Includes terminal expenses, general and back shop repairs.**
[14] **Runs to St. Petersburg in winter months only.**

[12] **Includes terminal expense, general and back shop repairs and retirement and unemployment taxes.**

(*Continued from page* 51)

"(1) Passenger traffic in the country as a whole [during the first half of 1949] is about 152 per cent of that of the period immediately preceding the war;

"(2) Passenger rates, in general, are about 134 per cent of the prewar level;

"(3) As a result of (1) and (2), passenger revenues [in the first half of 1949] are about 206 per cent of those of the prewar years."

Although the report expresses no opinion on the extent to which postwar figures of traffic and earnings indicate future trends, it points out, nevertheless, that, should traffic again build up to 1947 levels, it would represent 207 per cent in volume and, at current passenger fares, 280 per cent in revenue of the corresponding prewar figures. As to the source of traffic for the modern, streamline train, the engineering firm states that "notwithstanding the indefiniteness of many of the replies to our inquiry, there is a thread of positive opinion running through all of them which, in composite form, may be summarized as follows:

"(1) It is more or less generally accepted . . . that the streamline train has been instrumental in holding traffic that otherwise would have been lost to competitive transportation agencies—the automobile principally and the bus and airplane in lesser degree. . . .

"(2) It is felt that modern streamline trains have held their own against the competition of the airplane and, in some cases, have retrieved a certain amount of traffic from the air, particularly in the period before rail coach fares were raised. Now that rail fares have been increased and air fares reduced . . . the new trains have lost some of their effectiveness in this respect.

"(3) The new trains, particularly on long hauls, but in many instances also on short hauls (notably the short-distance Rock Island 'Rockets' and Burlington 'Zephyrs'), have been remarkably successful in securing new rail traffic. The consensus of the executives tends to confirm the results of prewar questionnaires: (a) that, generally, as each new train is put on, a portion of its traffic is diverted from other trains . . . ; (b) that in each instance an important segment of the new train's traffic is built up from the highways; and (c) that in some cases, a not inconsiderable amount is traffic generated by the new trains which otherwise would not have moved at all. Items (b) and (c) may be said to be newly created rail traffic. They represent the net traffic gains in streamline train operation and, taken together, are frequently a large percentage of the total.

"(4) It also appears to be the belief that the streamline train is the most effective vehicle presently in the possession of the railroads for meeting the competition of other common carriers, and for reversing the trend toward encroachment upon railroad traffic by the private automobile."

A postwar survey made by the Southern Pacific on its "Shasta Daylights" would seem to substantiate the "thread of positive opinion" expressed in the four statements above. Asked how they would travel if there had been no "Shasta Daylight," the replies of 3,562 passengers indicated, as shown in the following résumé, that 50 per cent of the patronage is new Southern Pacific business:

Would use another train	1,757, or 49 per cent
Would use a plane	606, or 17 per cent
Would not have made the trip	482, or 14 per cent
Would use an automobile	381, or 11 per cent
Would use a bus	334, or 9 per cent

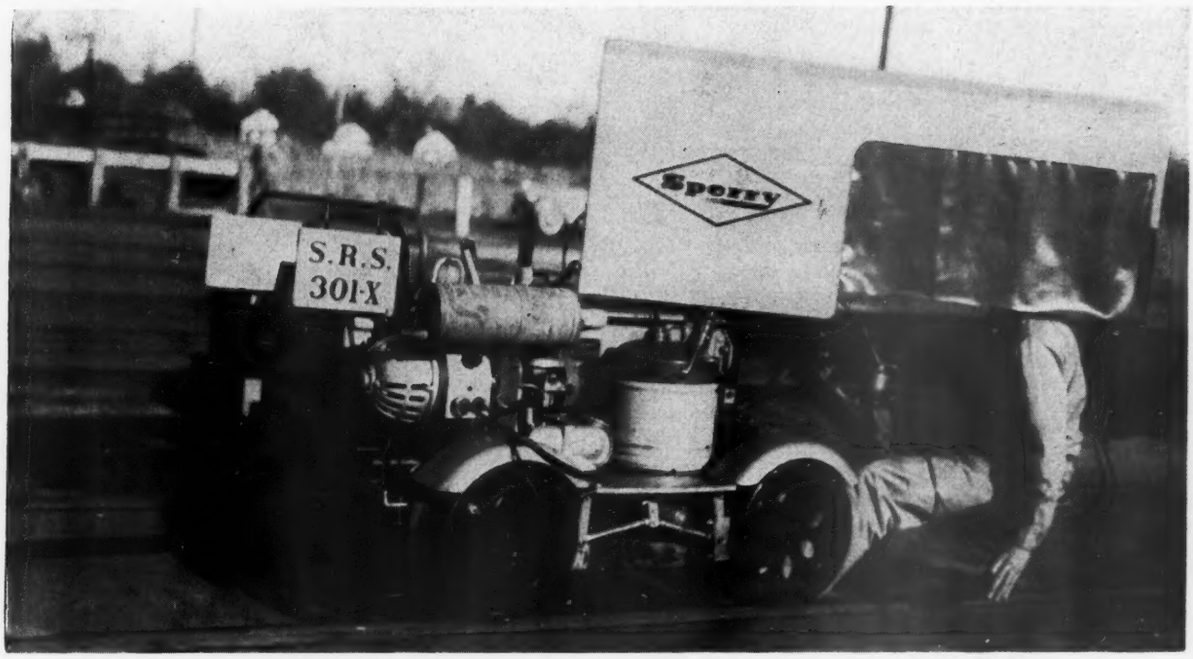
"The principal competitor of the railroads in the passenger field," the survey states, "is the private automobile," and automobile traffic constitutes "an enormous reservoir of partially potential rail traffic." Coverdale & Colpitts point out that the susceptibility of highway travel to diversion to the rails has already been demonstrated by the performance of the streamline trains now in operation, and that, in this connection, extraordinarily attractive new types of passenger equipment have been developed—the "Train of Tomorrow," of the General Motors Corporation, constructed by Pullman-Standard, the "Talgo" train of the American Car & Foundry Co., and the RDC-1, rail-Diesel car of the Budd Company.

The compilations which the Coverdale & Colpitts report makes available present an encouraging view for the future of the streamliner; facts which should renew faith in the ability of the modern passenger train not only to pay its way, but to make a substantial contribution toward common expenses of the railroads. The "sustained high earnings [of the streamliners] in the postwar period of general traffic decline," state Coverdale & Colpitts, "appear to us to afford assurance of steadily increasing public acceptance of the streamline trains as the principal medium for volume travel, with consequent betterment of the position of the railroads in the field of passenger transportation."

OPERATING REVENUES, EXPENSE AND NET, 58 STREAMLINERS

	"NOON DAYLIGHT" S. P. San Francisco-Los Angeles 2 trains, 14 cars, ea. one-way trip daily	"SUNBEAM" S. P. Dallas-Houston 2 trains, 8 cars, ea. one-way trip daily	"CITY of SAN FRANCISCO" S. P. Oakland-Ogden 4 trains, 16 cars ea. one-way trip daily	"LARK" S. P. San Francisco-Los Angeles 2 trains, 19 cars, ea. one-way trip daily	"SAN JOAQUIN DAYLIGHT" S. P. Oakland-Los Angeles 2 trains, 14 cars, ea. one-way trip daily	"GOLDEN STATE" S. P. Los Angeles-Tucumcari 5 trains, 12 cars ea. one-way trip daily	"CRUSADER" READING Philadelphia-Jersey City 1 train, 5 cars, two rd.-trips weekdays
	1948	1948	1948	1948	1948	11 mo. 29 da. end. 12/31/48	1948
GROSS REVENUE	$1,734,168	$637,091	$3,967,453	$2,391,528	$1,766,735	$3,876,299	$235,893
Gross Revenue per Train-Mile	5.04	3.29	6.93	6.32	4.38	4.62	2.20
Expenses, per Train-Mile							
Crew Wages	.65	.59	.61	.57	.74	.55	.42
Fuel	.43	.36	.44	.50	.63	.30	.37
Power Plant Maintenance	.54	.33	.41	.49	.69	.40	.41
Train Maintenance	.63	.29	.75	.89	.60	.70	.18
Total Train Expenses[1]	1,223,851	389,105	1,772,037	1,275,249	1,486,354	2,083,210	178,641
Total Train Expenses per Train-Mile	3.56	2.01	3.09	3.37	3.69	2.48	1.67
NET REVENUE	510,317	247,986	2,195,416	1,116,279	280,381	1,793,089	57,252
Net Revenue per Train-Mile	1.48	1.28	3.84	2.95	.69	2.14	.54
Per Cent of Gross Retained as Net	29.4	38.9	55.3	46.7	15.9	46.3	24.3
ROUTE-MILES	470	264	774	470	478	1,157	91

[1]Includes train supplies and expenses, and dining car and buffet losses.



Sperry ultrasonic rail test car 301X in action, showing how operator, on a cantilevered seat at the rear, passes a searching unit over rail head at joints and views the reflected impulses on a cathodic ray screen covered by a magnesium hood

Sound Testing Searches Out Rail Defects Within Limits of Joint Bars

Car-mounted ultrasonic reflectoscope discloses bolt-hole breaks, head-and-web separations, and other failures rapidly without necessity of dismantling rail-end assemblies

By H. C. DRAKE*
Research Consultant
Sperry Products, Inc.

Sound has been used by the railroads as a testing means for many years. A familiar example is the well-known hammer test, which has an extremely limited field of application. More recently, scientists have been investigating the behavior of silent sounds, that is, those sound vibrations lying within the frequency range from the inaudible up to 5 or 10 million cycles per second. One of these investigations led to an invention known as the ultrasonic reflectoscope, which has many applications in locating hidden defects in metal, and has recently been adapted for testing rail in track within the limits of the joint bars.

The ultrasonic reflectoscope is an electronic instrument designed for the nondestructive testing of materials by means of high-frequency sound vibrations. Its principal elements include a searching unit, a cathode ray tube, and a cathode ray screen. The searching unit consists of an "X-cut" quartz crystal designed to vibrate at the desired frequency. This unit sends a beam of pulsed high-frequency vibrations into the material under test, and if these vibrations encounter a crack or the opposite side of the material, they are reflected back to the instrument. The initial pulse and its reflections are presented on the cathode ray screen of the instrument in their correct time sequence, as will be explained later.

Vibration frequencies ranging from ½ million to 10 million cycles per second are used in testing, and

*This article is abstracted from a paper presented by Mr. Drake at the February 23 meeting of the Metropolitan Maintenance of Way Club, New York.

Two passes (forward and reverse) of the searching unit are made along the rail head within the joint-bar area, while the operator reads reflections directly on the screen. Testing progresses at a rate of about 90 joints an hour

at these frequencies the pulses of vibration act much the same as a ray of light. They travel in a straight beam which may be reflected, refracted and focused.

How the Instrument Functions

In operation, the searching unit is placed on the top surface of a block of metal which has previously been covered with a film of thin oil or kerosene to act as a couplant between the searching unit and the surface of the block. A pulse of vibrations is sent into the material, and this initial pulse appears as a peak at the extreme left of the cathode ray viewing screen. The pulse of vibrations travels through the block to the opposite side and is reflected back toward the searching unit.

When the reflected pulse reaches the searching unit, it is transformed into electrical energy and is presented as a peak on the right side of the cathode ray screen. The distance from the initial pulse indication on the left to the reflected pulse on the right represents the distance between the upper and lower faces of the block. If the block contains a crack midway between the top and bottom faces, the pulse will travel downward until some of the vibrations strike the crack, where they will bounce back toward the crystal. The remaining vibrations continue toward the bottom surface of the block. The vibrations reflected from the crack arrive at the searching unit and are indicated on the viewing screen as a peak in the center of the trace. The vibrations that continued on past the crack are reflected back from the lower surface as before. their arrival at the searching unit being indicated by a peak at the right of the screen. Thus, the defect is presented on the screen midway between the initial pulse and the back reflection, identical with its actual position in the block.

However, when a block with a vertical crack is tested with the type of instrument just discussed, the beam travels through the block and is reflected from the back surface, without being affected in any way by the crack. This limitation led to an extensive crystal research program, which resulted in the development of a wedge crystal for transmitting pulses of vibration into the material at an angle of 45 deg. to the testing surface. Use of this type crystal in the searching unit makes it possible to detect vertical cracks, the location of any crack being shown as a peak on the cathode screen at the correct distance from the initial pulse.

Use in Testing Rail

When the wedge crystal is applied to the testing of rail with bolt holes, the searching unit is mounted on top of the rail head above the web and is moved toward the end of the rail. A point is soon reached where the ultrasonic beam strikes the first bolt hole and is reflected back to the instrument. The initial pulse and bolt hole reflection appear on the viewing screen. When a vertical crack extends from the bolt hole up towards the rail head, the bolt hole peak will be seen in the viewing screen as before, but beside it will be another peak produced by the reflection from the crack.

If a crack extends from the end bolt hole to the rail end, its reflection on the screen will appear continuously from the bolt hole to the rail end. When a head-and-web separation is encountered, the rough surface of the defect reflects back the vibrations, which appear on the screen a short distance from the initial pulse and remain visible for the length of the defect.

The head-and-web separations sometimes prevent indication of the bolt holes and it is occasionally desirable therefore to use the straight crystal as an aid to interpreting certain types of defects.

The Ultrasonic Detector Car

Sperry Rail Service has designed a rail test car based on the ultrasonic testing principle. to eliminate the need for removing joint bars to inspect the rails visu-

ally. In planning the car, the following requirements were considered: The movement of the car from joint to joint must be automatic to permit the operator to concentrate on testing and achieve maximum production; the operator must be seated in a comfortable position while testing either rail; the ultrasonic detection equipment must be improved and simplified for this special application; the weight of the car must be held to the minimum to facilitate its removal from track; and the car must have a running speed of 25 m.p.h. The present basic testing car is a 500-lb. unit equipped with a standard gasoline engine and belt drive for running light. In addition, the car has an auxiliary electric drive, with gear reduction, to provide a speed of 5 ft. per sec. when moving from joint to joint in testing. Power for this drive motor and for the ultrasonic unit is provided by a lightweight 2½ kw. gasoline-powered generator mounted at the front of the car. This unit also provides power for heating the operator's gloves and suit during cold weather.

Swinging Seat and Hood

The seat for the operator is located on a swinging cantilever with its axis of support at the rear end of the car. This arrangement permits him to swing from one rail to the other, with the seat at a height that permits testing the longest joints now in use with minimum fatigue.

The ultrasonic unit for this car is mounted directly over the support of the cantilever member, so as to swing with it, and is especially designed for high-speed rail testing. Compared with the industrial-type reflectoscope, the equipment has fewer controls, an increased beam intensity, improved stability, and a more readable pattern.

Also, it operates on one frequency only. These modifications simplify interpretation of the complex reflections obtained from the joint structure.

The operator and detector equipment are covered by a magnesium hood equipped with side curtains. This hood insures good screen visibility on sunny days, and serves as a protection in stormy weather. The control switchboard for the car is located below the ultrasonic unit, directly in front of and within easy reach of the operator.

The car is equipped with fingers which engage the joint bars as they are approached and act to stop the car at the proper position for testing. Thin oil or kerosene is necessary as a couplant between the crystal and rail, this being placed on the rail head surface ahead of the car. An automatic oiler, operated by the joint controls, has just been installed on one of the cars.

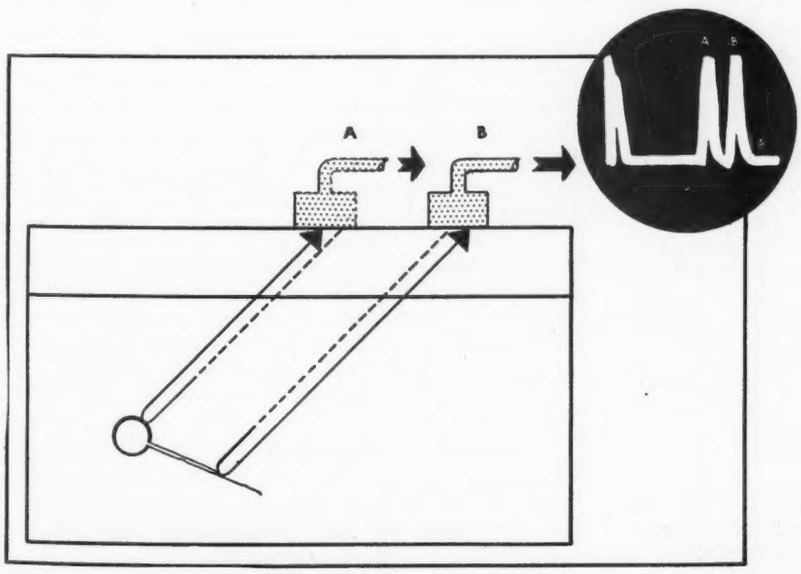
Operation of the Detector Car

With the generator operating, the electric drive clutch in, and the instrument switch on, the operator is ready for testing. While on the operator's seat, he keeps his eyes fixed on the cathode ray screen in front of him and makes a complete pass with the searching unit forward and back over the rail joint. If the beam pattern shows sound rail, he immediately pushes a button and the car starts moving ahead. While the car is moving, he swings over to the opposite rail to be ready for testing the next joint. As the joint finger on this side engages the next joint bar, it trips the control circuit and automatically stops the car at the correct position for testing. The time required for this movement is from five to six seconds.

When a defect is indicated, the operator interprets the scope picture and marks the location and size of the defect on the joint bar. The average testing time per joint depends upon the percentage of defective joints found, the length of the joint bars, the rail surface condition and various other factors. During January, the average testing speed for four cars in commercial service was 90 joints per hour per car, or three hours of testing per mile of track.

The car is designed for ready removal from the track at road crossings and motor car set-offs. When running light the operator's seat is locked in its central position and the car is operated as a regular motor car.

The defects found in rail within the joint bar area



Diagrammatic sketch showing the path of the ultrasonic beam in detecting a bolt hole crack. Reflections from each discontinuity appear on the cathode ray screen as shown

Fig. 1 Fig. 2 Fig. 3 Fig. 4

Four typical indication patterns seen on the cathode screen when testing rail with the ultrasonic rail test car

(1) Typical pattern obtained from sound rail without discontinuity; (2) indication obtained from a bolt hole; (3) indication resulting from a bolt-hole crack; (4) indication obtained from a head-and-web separation

fall within three general classifications—head-and-web separations, bolt hole breaks, and miscellaneous defects.

The ultrasonic cars have detected head-and-web separations in all stages, ranging from 1/16 in. to 7 ft. in length. These defects are usually found on the receiving end of the rail. Bolt hole cracks as small as 1/8 in. long, and extending in all directions from the bolt hole, have been detected. Occasionally the operator has been amazed at the reflections on the viewing screen and, in one instance said, "This joint is falling apart." When the section men removed the bars, a 11-in. piece of base and web dropped out.

Defects Found by Car

The miscellaneous classification includes mill defects, cracks in welded or built-up rail ends, cracks from bond holes or welded bonds, and defects in welded joints.

The effectiveness of the test car is indicated by the following operating results for the month of January, which include data from several railroads:

Miles tested	Joints tested	Testing time	Defects found	Per cent defects
66	17,949	198 hr.	1,537	8.6

The percentage of defects in different stretches of track varies widely, ranging from 2 per cent in some cases to 20 per cent in others. In some short sections of a couple of miles, more than 35 per cent of the rails were found to contain defects within the joint areas. Of course, a large number of the defects were small cracks. On one railroad, 20 per cent of the bolt hole cracks were found to be in highway crossings. Another interesting fact developed is that insulated joints appear to have a higher percentage of bolt hole cracks than standard joints. Bolt hole cracks were also found in mitered joints, as well as standard joints, on bridges.

The 1,537 defects found in January were classified as follows:

Bolt hole Cracks		Head and Web Separations		Miscellaneous	
353	23%	1,030	67%	154	10%

Ultrasonic Versus Visual Inspection

In evaluating the performance of the ultrasonic rail test car as compared to a visual inspection, the factors of accuracy, time and labor involved, and the effect on traffic must be considered. In January an ultrasonic car tested the rail at 295 joints that had been inspected visually by joint bar removal some three weeks earlier. The car found seven bolt hole cracks and a head-and-web crack that had been missed in the visual inspection.

The average testing speed in January for an ultrasonic car and operator was 90 joints per testing hour, with no interference with traffic. When consideration is given to the size of the force that would be required to remove the bars, inspect the rail and replace the bars on 90 joints per hour, without disrupting traffic, the savings in time and labor by the use of the ultrasonic care become readily apparent.

Special Applications

Visual inspection of rail inside the joint bars in tunnels is especially difficult because of poor visibility. In addition to removing and replacing bars and inspecting the rail, the difficulties of working under tunnel conditions and the corroded condition of the rail itself must be considered. The ultrasonic car, on the other hand, is able to test in the tunnel as easily as it can in open track.

The ultrasonic car has tested joints and found bolt hole cracks on bridges and trestles at a speed of 90 joints per hour. Visual inspection of rail in such locations is not only slow and difficult, but also dangerous. Rail joints imbedded in crossings or station platforms seem especially susceptible to fatigue cracks of the bolt-hole and head-and-web types. Visual examination of such joints by joint bar removal is frequently a major operation, but ultrasonic testing takes but a fraction of a minute.

Attention has recently been directed to bolt-hole or rivet-hole failures at the heel of trailing-point switches. Such cracks cannot be seen, but when the break is complete it allows the switch point to work forward under traffic to a point where derailments may result. Such switch rails may be quickly examined by the ultrasonic car from one end to the other to locate these and other defects.

In the past no quick means has been available for determining whether new rail was developing fatigue cracks within the joint bars. Now, with an ultrasonic car, spot checks of a sufficient number of joints can be made to obtain an immediate answer.

GENERAL NEWS

N. Y. "Big Truck" Taxes Much Too Low

Special report finds autos, small trucks overcharged

That "license taxes on the heavier vehicles should be increased to equalize total user taxes among all vehicle classes" is the major conclusion of a 400-page study of highway finance in New York state just completed by Griffenhagen & Associates, consultants in public administration and finance for the Citizens Public Expenditure Survey, of Albany, N. Y.

The report — the first of its kind in New York — covers the operations of all 1,620 highway administrative bodies — state, county, city, town and special authority — within the state. It includes a general description of existing highways and streets; an 11-year (1950-1960) forecast of highway expenditures under four different sets of circumstances; an analysis of present highway revenues from motor vehicle licenses, motor fuel fees, tolls and other sources; a discussion of proper apportionment of highway costs between users and non-users and among the different classes of users; and schedules of license fees which should be assessed against typical vehicles to meet specified annual highway expenditures.

Heavy Trucks Should Pay 13 Times More

If future highway expenditures are to be great enough to eliminate all highway deficiencies, and to maintain and operate facilities adequately, and if the state motor fuel "tax" is to remain at its present level of 4 cents per gallon, then, the report concludes, heavy trucks (over 18,000 lb. net weight) and intercity buses should pay registration fees approximately 13 and 11 times, respectively, as large as at present. Fees for medium trucks, on the same assumptions, would have to be increased about six times, but those on passenger cars and light trucks could be held close to their present levels. With a higher fuel tax, or substantially smaller total highway expenditures, license fees for automobiles and small trucks could be substantially reduced, but those on medium trucks would have to be moderately increased, while those on heavy trucks and intercity buses would, "in any event," have to be substantially higher.

As the report puts it, assuming "that user taxes will, on the average over a period of years, be equal to the average of the user share of highway costs":

"If there is to be a very large highway expenditure program [about $512 million per year to eliminate all deficiencies and adequately maintain facilities] user taxes will have to be increased on all classes of vehicles.

"If there is to be only a medium increase in highway expenditures [about $354 million per year for a "normal growth pattern"] then user taxes can be decreased on the lighter vehicles, but should be increased on the heavier vehicles.

"If highway expenditures are to be kept at about the current level [$290 million per year] user taxes on all but the heavier vehicle classes can be decreased.

"If highway expenditures are to decline to a depression level [about $220 million per year] then user taxes on practically all vehicle classes except large trucks [and buses] can be decreased."

License fees which would have to be levied on various classes of vehicles on the basis of differing fuel "taxes" to provide for the indicated expenditures on highways and streets are shown in detail in the accompanying table.

Present Fees Favor Trucks

Pointing out that "only 12 states collect greater registration fees than New York on passenger cars, while 44 states collect greater taxes on heavy combination trucks," the report unequivocally declares that "the greatest benefits of these low taxes are received by the owners of the vehicles in the heavier classes (heavy trucks, buses, etc.)."

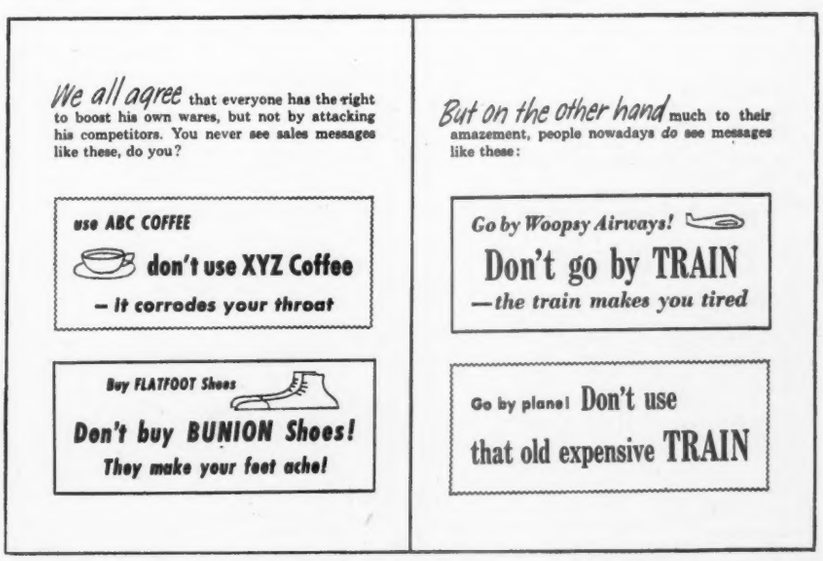
In support of this declaration, it states that on the present licensing basis of unladen weight "the 17,500-lb. truck pays a license fee of only $0.329 per 100 lb. while a 3,100-lb. passenger car pays $0.431"; and continues to say that:

"On the basis of relative use of the highways as measured by the ton-miles of travel, the combined motor fuel tax and motor vehicle registration charges in New York are such as to place a greater charge upon the smaller vehicle than upon the larger vehicles for the use of the highways. The combined license fee and motor fuel tax for a passenger car is . . . about $0.23 per 100 ton-miles, while the comparable charge for a heavy truck is about $0.05 per 100 ton-miles. The passenger car payments are over four times as great as the heavy truck payments on a ton-mile basis. . . .

"The motor fuel tax . . . is by no means a perfect measure [of relative use of highways]. For example, the light passenger vehicle pays over 3½ times as much in motor fuel taxes per ton-mile as the heavy truck pays. Motor fuel taxes per 100 ton-miles are:

Passenger cars—14.44 cents;
5,500-lb. (gross weight) truck—14.44 cents;
24,000-lb. (gross) truck—4.96 cents; and
55,000-lb. (gross) truck—4.16 cents.

"This situation points to the need of a graduated motor vehicle license tax with higher rates in the upper gross weight classifications. The present motor vehicle license tax schedule in New York is not such as to equalize the total


We all agree that everyone has the right to boost his own wares, but not by attacking his competitors. You never see sales messages like these, do you?
use ABC COFFEE
don't use XYZ Coffee
— it corrodes your throat
Buy FLATFOOT Shoes
Don't buy BUNION Shoes!
They make your feet ache!
But on the other hand much to their amazement, people nowadays do see messages like these:
Go by Woopsy Airways!
Don't go by TRAIN
—the train makes you tired
Go by plane! Don't use
that old expensive TRAIN

That little Southern Pacific booklet ribbing the advertising technique employed by some air lines is too good to keep under wraps. So here are two more pages, in addition to the nine reproduced on page 51 of the *Railway Age* of February 18

motor fuel and motor vehicle license tax payments per ton-mile as between the heavier and the lighter vehicles."

In this connection the report also states that "the ton-mile method" is "one of the simplest . . . means of measuring the relative use of highways"; and that "theoretically, a direct ton-mile tax would be superior to the motor fuel tax, or motor vehicle registration tax based on gross weight, since it equitably apportions the highways costs among the users on the basis of relative use."

It finds, however, that "only on the heavier vehicles would such a tax be practical," and considers as "insurmountable" the problems of administering such a tax in the case of passenger and light commercial vehicles. It therefore suggests that "the most satisfactory solution to the problem [of obtaining adequate highway revenues] lies in continuance of the motor fuel tax and the motor vehicle registration fees, with the latter being modified to give effect to the weight and distance factors."

Spikes "Diversion" Argument

A nominal flat "standby" charge of $5 per vehicle is also suggested as an integral part of the license fee schedule to take into account the "factor of space occupied by a motor vehicle."

The report effectively spikes any argument about "diversion" of highway revenues to non-highway purposes by pointing out that "over a 52-yr. period, through the end of fiscal 1949, there has been devoted to highway purposes by the state just about as much as has been collected from highway users"; and that during the 22-yr. span from 1926 through 1947 more than $4.3 billion was spent for highways and streets by all government units in the state, while in the same period highway users paid only $1.9 billion (or 44 percent) in user fees. In 1947 alone, it adds, when highway user fees totaled less than $140 million, "expenditures on highways, roads and streets by all governmental jurisdictions in the state amounted to $234 million."

With respect to apportionment of highway costs between users and nonusers, the report recommends that users of all classes should be charged with 100 per cent of the cost of rural primary (state) roads, 60 per cent of the cost of rural secondary (county) roads, and 37.5 per cent of the cost of city streets, excluding those on the state primary system. Nonusers would be made responsible for the remaining 62.5 per cent of city street costs, 40 per cent of rural secondary road costs, and all the costs of rural access (town) roads.

The report points out that there are approximately 102,000 mi. of existing roads and streets in the state; that their collective original cost was somewhat more than $3 billion, and that their present replacement cost is estimated to be about $5.4 billion. Gross outstanding highway debt, for all units of government, is almost $1 billion.

USER TAX RATES THAT SHOULD BE CHARGED REPRESENTATIVE MOTOR VEHICLES IN NEW YORK STATE

If future expenditures reach a level high enough to eliminate all existing highway deficiencies ($512 million per year):

Type of Vehicle	Registration Rates with Motor Fuel Tax of 4c a Gal.	of 5c a Gal.	of 6c a Gal.	Current Registration Rate With Fuel Tax of 4c a Gal.
Passenger car	$ 25.20	$ 19.79	$ 14.37	$ 15.50
Small truck (3,000 lb. net weight)	44.22	37.58	30.95	24.00
Medium truck (9,000 lb. net weight)	441.13	409.55	377.97	72.00
Large truck (over 18,000 lb. net weight)	2,257.93	2,153.54	2,049.15	172.00
Omnibus (intercity)	877.41	824.67	771.92	81.50

If future expenditures increase at a medium rate of growth ($354 million per year):

Type of Vehicle	Registration Rates with Motor Fuel Tax of 3c a Gal.	of 4c a Gal.	of 5c a Gal.	Current Registration Rate With Fuel Tax of 4c a Gal.
Passenger car	$ 11.83	$ 6.41	$ 5.00	$ 15.50
Small truck (3,000 lb. net weight)	21.34	14.70	8.06	24.00
Medium truck (9,000 lb. net weight)	220.27	188.69	157.10	72.00
Large truck (over 18,000 lb. net weight)	1,163.73	1,059.34	954.95	172.00
Omnibus (intercity)	443.90	391.16	338.41	81.50

If future expenditures remain at the current level ($290 million per year):

Type of Vehicle	Registration Rates with Motor Fuel Tax of 2c a Gal.	of 2½c a Gal.	of 3c a Gal.	Current Registration Rate With Fuel Tax of 4c a Gal.
Passenger car	$ 10.36	$ 7.65	$ 5.00	$ 15.50
Small truck (3,000 lb. net weight)	17.16	13.84	10.52	24.00
Medium truck (9,000 lb. net weight)	159.30	143.51	127.72	72.00
Large truck (over 18,000 lb. net weight)	828.73	776.54	724.34	172.00
Omnibus (intercity)	318.39	291.83	265.65	81.50

If future expenditures decline to a "depression level" ($220 million per year):

Type of Vehicle	Registration Rates with Motor Fuel Tax of 1c a Gal.	of 1½c a Gal.	of 2c a Gal.	Current Registration Rate With Fuel Tax of 4c a Gal.
Passenger car	$ 9.75	$ 7.04	$ 5.00	$ 15.50
Small truck (3,000 lb. net weight)	14.33	11.01	7.67	24.00
Medium truck (9,000 lb. net weight)	109.93	94.14	78.35	72.00
Large truck (over 18,000 lb. net weight)	548.78	496.58	444.39	172.00
Omnibus (intercity)	215.21	188.65	162.47	81.50

T.A.A. Outlines Cooperative Project

Completes "basic structure" for transport problem study

In a statement prepared for submission on March 3 to the committee on interstate and foreign commerce of the House of Representatives, Dr. John H. Frederick, consultant on research and education of the Transportation Association of America and professor of transportation at the University of Maryland, announced completion of the basic structure of the association's National Cooperative Project.

"This plan for 'economic engineering' of the nation's transportation problem [he said in part] was designed after a decade of research, supported by tests of public opinion in all areas of the United States. The physical, financial and regulatory aspects of transportation were thoroughly explored. The vast changes in areas of production and the revolution in distribution methods within agriculture and industry were appraised.

"The project revives the time-tried principle of voluntary cooperation—implemented among all economic groups—to solve the nation's most crucial and complicated domestic problem. It represents a 'partnership' of a cross-section of the best of American enterprise and is the last stand to avert the catastrophe of government ownership of all transportation—a prelude to the collapse of the competitive system along the entire economic front.

"The association is a 'clearing house' of research and public education, a common ground for all farm, trade, and civic organizations. It seeks to develop leadership for *public interest* in all transportation."

N.C.P. Organization

The National Cooperative Project is separately organized and implemented through eight major panels and a legal advisory group, with George P. Baker, professor of transportation of the Harvard Graduate School of Business Administration, acting as moderator, and Ruth Tegtmeyer of the association as secretary.

National User Panel — Traffic policy executives selected by farm organizations, large and small manufacturers, wholesale and retail trades. Chairman—Charles W. Braden, general traffic manager, National Distillers Products Corporation, New York.

National Investor Panel — Presidents and vice-presidents of banks and insur-

ance companies throughout the country, with each area represented, together with individual investors. Chairman — August Ihlefeld, president, Savings Banks Trust Company, New York.

National Domestic Waterway Panel — Executives of all forms of water carriers. Chairman—Chester C. Thompson, president, American Waterways Operators, Inc., Washington, D. C.

National Railroad Panel—Presidents of 12 Class I railroads. Chairman—William White, president, Delaware, Lackawanna & Western.

National Highway Panel—Nominees of American Trucking Associations, Inc. Chairman—Chester G. Moore, chairman, Central Motor Freight Association, Chicago.

National Pipe Line Panel—Executives of principal pipe line carriers. Chairman —J. L. Burke, president, Stanolind Pipe Line Company, Tulsa, Okla.

National Airline Panel—Nominated by Air Transport Association. Chairman — Jennings Randolph, assistant to president, Capital Airlines, Washington.

National Freight Forwarders Panel — Nominated by the Freight Forwarders Institute. Chairman—M. Forgash, president, Universal Carloading & Distributing Co., New York.

Legal Advisory Group — Outstanding authorities from various geographic areas. Chairman—Chauncey H. Hand, Jr., of Dorr, Hammond, Hand & Dawson, New York.

"Through discussion and constructive debate," Dr. Frederick declared, "every effort will be made to narrow areas of disagreement and conflict between the forms of transportation and to bring forth recommendations for a national transportation policy and a modern system of federal regulation which will keep pace with the needs of a fast-changing economy."

First Report Due in a Year

In another year the association's directors will submit to Congress the project's first report, dealing with majority and minority opinions relative to 27 of the basic issues of the transportation problem, such as:

1. How federal regulation and promotion of transportation should be conducted.
2. How jurisdiction of federal and state regulatory authorities should be harmonized.
3. Whether consolidations and coordinations are advisable in the public interest; and if so, how they may be brought about.
4. The extent, if any, to which public aid should be furnished transportation; and, if continued, how such aid should be distributed among different forms of transport.
5. How procedures of federal rate regulation should be speeded up.
6. How unnecessary duplications and wastes can be avoided.
7. What steps should be taken to assure a constant flow of new private capital into transportation.

The project is appraising a mass of research developed through studies of both private and governmental institutions during the last 30 years. It is giving careful consideration to recommendations of the Hoover Commission, of Commerce Secretary Sawyer, and the Brookings Institution.

The panels of experts are supported by regional forums being organized in 22 areas of common economic interest. Each forum is composed of leaders of agriculture, industry, finance, transportation and labor. Each will test the recommendations of the national panels in the light of economic and social requirements of the various parts of the country.

In turn, the forums are fortified by enterprise councils being organized in 236 local areas. These are study and action groups whereby the association is kept currently abreast of local conditions and opinion trends.

The association itself is a non-partisan, non-profit, research and educational institution, concerned with transportation as a service to the public, and supported by 9,000 enterprises, of which 75 per cent are users of all types of transportation services. Its objective is "to defend the enterprise system against state socialism by dealing constructively with the nation's most crucial problem—transportation—and to substitute government by economics for government by political pressure groups."

Financial Analysts View Rail Problems

Discuss competition, operating economies, improved finances

"A great deal of public education will be required to make it clear that all the railroads are endeavoring to do is to secure the traffic to which their inherent economy entitles them; and that they are not in any sense seeking to place obstacles in the way of those truck operations which are intrinsically superior in economy to movement by rail," James G. Lyne, editor of *Railway Age*, told a Railroad Forum at the annual meeting of the National Federation of Financial Analysts Societies at New York on March 2.

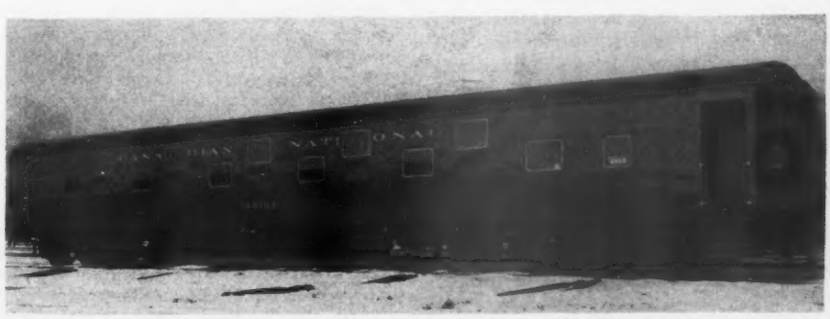
Pierre R. Bretey, railroad analyst for the New York Stock Exchange firm of Baker, Weeks & Harden, acted as chairman of the forum, while other speakers included Frederick Uhrbrock, of Vilas & Hickey; Perry M. Shoemaker, vice-president of the Delaware, Lackawanna & Western, and Walter F. Hahn, of Smith, Barney & Co.

Mr. Lyne, speaking on "What Is Competition Doing to Railroad Traffic and Rates?," pointed out that "it seems safe to assume that intercity truck transportation is moving about 100 billion ton-miles of freight traffic for which it is paid in excess of 3 cents per ton-mile and is certainly earning in excess of $3 billion in gross revenue. If only one-third of this traffic and revenue is assumed to be within the economic range of rail haulage, which appears to be a most conservative estimate, then there is at least $1 billion of freight business here which would certainly mean a lot to the railroad industry if all or any considerable part of it could be recaptured for rail movement."

"Hard for Railroad People to Plan"

He then went on to say that many railroad men believe the railroads "could capture a great part of this competitive traffic" by making rates on it "which would be within the cost range of rail service," but that other railroad men fear that any attempt to cut rates to meet competition will also lead to regulatory insistence on lower rates where competition does not exist, thus reducing total railroad revenues instead of increasing them.

"It is undoubtedly a far sounder procedure," he continued, "to increase the fees for highway use by commercial users to a compensatory level, to get the legal weight of trucks down to where highway officials say the maximum should be, and then to endeavor to enforce the laws against overloading of trucks, than to try to get all this traffic back on the railroads by a 'rate war.' . . . The whole freight traffic situation . . . is highly unstable. It is very hard for railroad people to sit down and do any advance calculating — as regards new facilities, for instance — when they can never tell when legal weights on the



First of their type to be built in Canada, 20 duplex roomette cars have been ordered by the Canadian National, and the first of the series has been inspected by officers of the railway with the builders. Each car has 24 individual self-contained rooms, alternating 12 at floor level and 12 raised two steps higher

An Illinois Central freight train makes its way cautiously through floodwaters from the Cumberland river near Kuttawa, Ky. Recent high water also has slowed I. C. trains between Princeton, Ky., and Eddyville, and has required repacking of journals after trains have negotiated the flooded line. The inundation forced the closing of the road's line between Ballard, Ky., and Wickliffe. High water has also necessitated an embargo against all freight between Lindsay, Miss., and Woodville

highways may be doubled or fees for highway use cut in half."

Mr. Uhrbrock's talk on the "Improved Financial Position of the Railroad Industry," was largely devoted to examination of the changes in railroad finance which have taken place between 1929, 1936 and 1949, and was designed to show that the industry is financially in better condition than in either of the earlier years.

His conclusions were based on the facts that net current assets have substantially increased while funded debt and fixed charges have been reduced; and that the ratios between funded debt and operating revenue, fixed charges and maintenance, fixed charges and current assets, and fixed charges and net operating revenue have all declined.

"Favorable and Unfavorable" Factors

In his discussion of "Which Rails in 1950?," Mr. Hahn gave brief analyses of individual railroads which "have benefited most from major favorable developments of the late war years and postwar period, and have not been substantially hurt by other developments of an unfavorable nature."

Among favorable developments affecting certain companies he mentioned (1) greater than average growth of population and industry in some parts of the country; (2) inflation of costs and rates, "the net effect of which has been to increase earnings of low-cost railroads"; (3) improved efficiency; (4) better financial position, and (5) better management. Among unfavorable developments he listed (1) increased passenger-service losses; (2) downward trend of coal consumption and production; (3) increased terminal expenses, and (4) greater than average loss of traffic to trucks due to type of traffic, length of haul or rate structure. Those railroads that have been doing well and that will do relatively well in the current year, he said, "are benefitting from at least some of the favorable factors and not being hurt unduly by the unfavorable factors."

Benefits of Mechanization

Mr. Shoemaker, who illustrated his discussion of "Operating Economies from Improved Technologies" with statistics drawn from his own railroad, emphasized the cost-reducing potentialities of Diesel-electric locomotives and mechanization of freight stations and maintenance of way work.

On the latter topics, he said in part:

"The railroad industry clearly recognizes that one of the answers to its high freight station operating costs lies in additional mechanization. Involved, however, at many locations is the need for new freight station facilities, or major changes in those presently used. This entails large capital expenditures, and therefore there is need for a reasonable amount of caution. We must clearly demonstrate in each case that the potential saving from the use of mechanized equipment is large enough to warrant the outlay of very large sums of money for major facility changes, and that as far as can be foreseen, there are no other conditions which may act to offset the natural advantages of mechanization. . . .

"In the roadway itself, a relatively greater savings probably has been and still can be realized through the application of modern technology, or mechanization, to the work done under the jurisdiction of the maintenance of way department . . . than can be realized in any other branch of railroad work."

The "Basic Question"

He concluded his talk with the following statements, "pertinent" to the "basic question" of "whether the carriers have sufficient opportunities for further economy in operation to stay financially healthy in the face of subsidized competition which is currently taking railroad traffic on a price basis, and in the face of higher railroad labor expense in the offing."

"1. The railroad industry cannot stay healthy on marginal traffic and as a true common carrier, while its subsidized competitors who pose as common carriers serve only such communities as they want to serve and take such traffic as they elect to handle.

"2. Further operating economies are in prospect along the lines discussed and in related fields.

"3. Most prospective operating economies require basic capital expenditures for which either cash or credit are mandatory.

"4. Traffic which does not pay its way —and mail is an outstanding example— is a menace to the long-term health of the industry.

"5. Economical operation of itself is but one facet of a railroad problem including a history of over-regulation, publicly perpetuated inequality between various means of transportation and a current need for such an understanding with labor as will stabilize wage costs."

Johnson Talks of Coal Famine and Car Supply

House group also hears other views on transport situation

Chairman J. Monroe Johnson of the Interstate Commerce Commission, discussing the current coal situation and the railroads' "insufficient" ownership of freight cars, was one of the leading witnesses to appear this week before the subcommittee on transportation of the House committee on interstate and foreign commerce in Washington, D. C. The subcommittee, headed by Represenative Beckworth, Democrat of Texas, was holding five days of hearings on air, rail, motor, and water transportation, with the fifth day reserved for shipper groups. Commissioner Johnson appeared at the February 28 session to discuss rail transportation.

During his presentation, which turned almost immediately to problems of the coal shortage resulting from the miners' strike, the I.C.C. chairman said the commission might have to order further cuts in freight and passenger service before the end of the week. He said he would consider a 12-day coal supply the "point of uneasiness," and indicated that the next cut in rail service would probably amount to an additional 10 per

cent (which would bring the total reduction to 35 per cent) in the mileage of coal-burning freight locomotives, and 15 per cent (bringing the total to 65 per cent) in the mileage of coal-burners in passenger service. Later the same day, the I.C.C. chairman reported that the railroads still had a 13-day coal supply on hand.

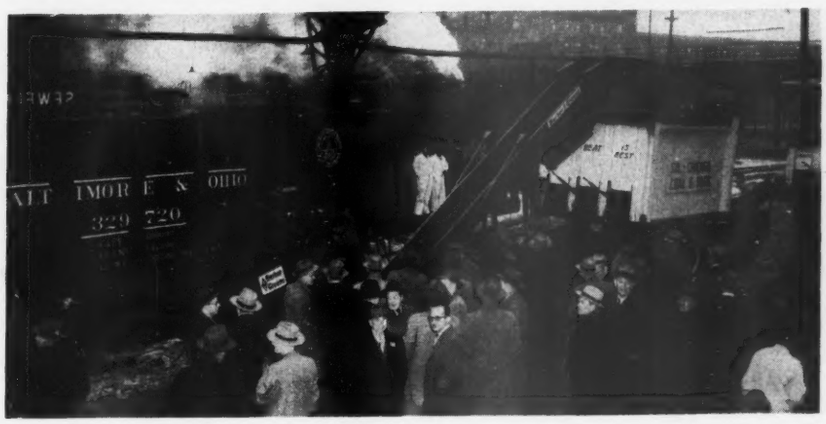
It was also brought out during Commissioner Johnson's appearance before the subcommittee that the I.C.C. has borrowed 170,000 tons of coal from the Tennessee Valley Authority, and that part of this coal has already been allocated to needy railroads. This information was developed as Representative Wolverton, Republican of New Jersey, questioned Chairman Johnson as to whether President Truman has been kept fully informed of the coal situation as it affects railroads. The commissioner said the President has been kept up to date and that it was John R. Steelman, assistant to the President, who arranged the coal loan from the T.V.A. The chairman went on to say in response to questions about the I.C.C.'s coal-conserving orders that the White House "does not interfere" with the I.C.C. in transportation matters. Mr. Steelman, speaking for the President, told the commission to "do just what transportation needs demand" in connection with the coal situation, Chairman Johnson said. Representative Wolverton had expressed fear that the President might have lacked knowledge of the real situation and hence delayed in declaring an emergency.

The commissioner also told the subcommittee that the railroads "deserve as much as or more credit than the I.C.C." in conserving coal supplies and keeping traffic moving. He said roads have been lending non-coal burning locomotives between themselves and added that he did not believe now the commission would have to allocate available Diesel power between roads to maintain vital movements. In speaking of Diesel power, the chairman told the subcommittee that this type motive power "is being increased by the capacity of the United States to build Diesels," and that "it would not surprise me if King Coal were to lose his crown," because of the "repeated rumblings" in the bituminous coal industry.

"Insufficient" Car Supply

Representative O'Hara, Republican of Minnesota, asked about the adequacy of car ownership and Chairman Johnson's one-word comment was, "Insufficient." Earlier, in a prepared statement to the subcommittee based largely on the I.C.C.'s 1949 annual report, the commissioner had mentioned car ownership. At this point he went on to say that in the interest of national defense this country needs 2 million freight cars, and suggested to the subcommittee that Congress appropriate money to build from 150,000 to 200,000 freight cars to be stored for use in an emergency. He declared the only loss in such a move would come from price fluctuations and not because the cars would become outdated. "We're running cars now that are 30 years old," he said. He emphasized the need for the extra cars in the interest of national defense, added that a car shortage "invites defeat," and said that when an emergency comes "you can't go out and order 200,000 freight cars and get them delivered tomorrow."

This discussion of a need for more cars for defense led to comments on railroads in wartime and on this point Chairman Johnson strongly praised the roads. "They are the only volume carriers in our transportation system," he said. He illustrated his point by saying that while a train of 150 freight cars, loaded to the eaves, moved rapidly from coast to coast, trucks could not handle such mass movements. Even if they could, he said, "think how long it would take them to go through Pittsburgh, and what could Pittsburgh do while they went through."



As noted in last week's *Railway Age*, page 57, the Baltimore & Ohio's "traveling coal exhibit" was well received by Chicago retail coal dealers at its initial showing in Grand Central Station. Shown above is that part of the exhibit which consists of a large map showing bituminous coal-producing areas along B. & O. lines, with samples of the types of coal coming from each of the 26 different seams now in production in those areas. In conjunction with the exhibit, the dealers watched a demonstration of coal being loaded automatically from a hopper to home-delivery trucks (below). The presentation, which is to be duplicated at various other cities, is intended to supply retail coal dealers with "sales ammunition" for expanding the bituminous coal market in the home fuel field

In addition to that by Commissioner Johnson, other presentations with respect to the railroad situation were made to the Beckworth subcommittee by J. Carter Fort, vice-president and general counsel of the Association of American Railroads, J. M. Hood, president of the Short Line Association, and Robert M. Drysdale, Jr., executive vice-president of the Federation for Railway Progress.

Mr. Fort's Testimony

Mr. Fort, who testified on Wednesday, discussed the railroad financial picture, the competitive situation with respect to other carriers, and transportation legislation now pending in Congress. In examining railroad finances, Mr. Fort said the "unsatisfactory financial condition" of the railroads is caused by the "unfair competitive situation" and the "delays and difficulties . . . encountered in adjusting rate levels to meet rising labor and material costs in the face of a declining volume of business." Mr. Fort

then went on to say present railroad earnings are "critically inadequate," and that railroads cannot provide transportation at a low unit cost while they remain in an "impoverished condition." He emphasized that in order to provide top service at lowest rates the railroads must have the best in plant, equipmetn and facilities—things which cannot be provided "except under adequate railroad earnings."

Turning to the competition faced by rail carriers, Mr. Fort said the present "unfair" situation results from governmental subsidies and inequities in regulation. He declared the only way to determine the form of transportation best suited for various services is to have "each form bear its own cost, and by having the full cost of each form reflected in the rates and charges which it makes to the public."

The A.A.R. vice-president also included in his presentation a number of recommendations on current legislation. He said that in view of the "unsatisfactory financial condition" of the railroads pending measures should be scrutinized closely so as to strengthen the railroad industry wherever possible. Mr. Fort recommended repeal of wartime excise taxes on transportation, separation of subsidy from airmail pay to airlines, and spoke in favor of a bill that would have the I.C.C. pass upon the public necessity and economic justification for inland waterways improvements before proposals for such improvements are submitted to the Secretary of the Army. Meanwhile, Mr. Fort opposed legislation that would repeal the Reed-Bulwinkle act, asked that the St. Lawrence seaway not be authorized, and, among other things, recommended that congress not pass legislation that would authorize the Postmaster General to ask from the railroads "unlimited data and information without regard to relevance or cost, and to withhold mail-pay as a penalty for noncompliance."

Mr. Drysdale of F.R.P. called for deregulation of the railroad industry, more freedom for rail consolidations, and tax relief that would include the end of discrimination in favor of railroad competitors at local and state levels. He recommended that the subcommittee study possibilities of a tax deferment plan for railroads that would provide income tax relief and give the roads money needed for improving and modernizing property. "These sums would not be added to the depreciation base used for tax purposes," he said. "Therefore when they are invested for the purpose specified, the tax collector will collect his deferred tax on the basis of a higher net than if the property so acquired were made part of the tax base."

Mr. Hood of the Short Line Association presented his statement to the subcommittee on Tuesday. It was the first rail presentation and embodied the association's legislative program as adopted at

(Continued on page 76)

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 129 reports (Form IBS) representing 133 steam railways*
(SWITCHING AND TERMINAL COMPANIES NOT INCLUDED)

Income Items	United States For the month of November 1949	1948	For the eleven months of 1949	1948
1. Net railway operating income	$75,582,130	$84,067,642	$615,155,042	$937,720,824
2. Other income	21,754,801	20,767,223	193,510,446	199,878,698
Total income	97,336,931	104,834,865	808,665,488	1,137,599,522
4. Miscellaneous deductions from income	3,818,574	4,867,907	33,555,246	58,916,884
5. Income available for fixed charges	93,518,357	99,966,958	775,110,242	1,078,682,638
6. Fixed charges:				
6–01. Rent for leased roads and equipment	10,570,991	10,466,251	111,117,057	120,535,073
6–02. Interest deductions[1]	24,975,377	24,212,661	272,899,487	266,980,440
6–03. Other deductions	228,683	221,504	2,305,663	1,776,575
6–04. Total fixed charges	35,775,051	34,900,416	386,322,207	389,292,088
7. Income after fixed charges	57,743,306	65,066,542	388,788,035	689,390,550
8. Other deductions	3,318,190	2,949,756	35,145,119	34,767,005
9. Net income	54,425,116	62,116,786	353,642,916	654,623,545
10. Depreciation (Way and structures and Equipment)	35,130,793	32,277,112	373,128,886	342,774,455
11. Amortization of defense projects	1,367,669	1,396,566	15,048,573	15,410,283
12. Federal income taxes	30,383,515	41,338,248	250,315,829	414,651,700
13. Dividend appropriations:				
13–01. On common stock	36,223,051	52,961,970	169,813,108	190,907,490
13–02. On preferred stock	5,245,742	6,853,158	55,292,824	58,987,830
Ratio of income to fixed charges (Item 5 ÷6—04)	2.61	2.86	2.01	2.77

Selected Expenditures and Asset Items	United States Balance at the end of November 1949	1948
17. Expenditures (gross) for additions and betterments—Road	$293,416,216	$307,741,264
18. Expenditures (gross) for additions and betterments—Equipment	899,662,422	808,053,373
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	516,596,820	522,557,886
20. Other unadjusted debits	122,109,887	142,265,934
21. Cash	850,313,146	1,013,163,209
22. Temporary cash investments	805,297,198	1,045,082,390
23. Special deposits	95,273,563	103,872,061
24. Loans and bills receivable	464,015	13,340,501
25. Traffic and car-service balances—Dr.	47,245,568	57,425,268
26. Net balance receivable from agents and conductors	145,783,685	150,583,224
27. Miscellaneous accounts receivable	282,249,738	361,155,358
28. Materials and supplies	744,146,158	838,651,514
29. Interest and dividends receivable	21,630,769	22,708,110
30. Accrued accounts receivable	159,848,357	174,249,805
31. Other current assets	37,296,533	43,498,345
32. Total current assets (Items 21 to 31)	3,189,548,730	3,823,729,785
Selected Liability Items		
40. Funded debt maturing within 6 months[2]	$153,829,804	$159,719,813
41. Loans and bills payable[3]	8,772,307	3,525,815
42. Traffic and car-service balances—Cr.	92,636,490	101,183,613
43. Audited accounts and wages payable	484,677,445	607,478,122
44. Miscellaneous accounts payable	184,219,920	228,133,025
45. Interest matured unpaid	42,358,035	43,214,812
46. Dividends matured unpaid	13,035,203	13,348,307
47. Unmatured interest accrued	85,637,462	83,485,548
48. Unmatured dividends declared	48,852,645	68,240,173
49. Accrued accounts payable	176,692,613	203,686,066
50. Taxes accrued	659,697,408	794,524,532
51. Other current liabilities	78,187,102	86,799,233
52. Total current liabilities (Items 41 to 51)	1,874,766,630	2,233,619,246
53. Analysis of taxes accrued:		
53–01. U. S. Government taxes	504,067,318	655,793,992
53–02. Other than U. S. Government taxes	155,630,090	138,730,540
54. Other unadjusted credits	275,980,030	303,070,016

* Excludes Missouri & Arkansas Ry. Co. Road not in operation.
[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Eastern Roads Move to Regain Iron and Steel Traffic

As forecast in the "Week at a Glance" page of *Railway Age* for February 25, a strong move by railroads to meet competition of unregulated as well as regulated highway carriers of certain iron and steel articles, by proposing substantial reductions in rail rates on those specific articles, has been announced by John J. Fitzpatrick, chairman of the Traffic Executive Association—Eastern Railroads.

For several months traffic executives of eastern railroads have been studying a plan which will be fitted to the needs of consumers in eastern territory. This plan is the result of those studies.

"The proposed rates," Mr. Fitzpatrick stated, "are based on graduated scales especially devised to meet the competition of all forms of highway carriers on particular iron and steel articles. The proposed rate adjustment will be subject to a new and heavier minimum carload weight of 80,000 lb. per car.

"Consumers, producers and other interested parties," he added, "have been requested to express their views regarding this proposed rate change at a special meeting to be held at the William Penn hotel in Pittsburgh, Pa., on March 9. Their suggestions will receive careful consideration before tariffs are filed

with the Interstate Commerce Commission. Estimates of revenues on traffic which may be recaptured cannot be given before final determination of the rates is made after the . . . meeting in Pittsburgh."

Orders Safety Inquiry For Long Island Signals

An investigation of all safety devices and procedures on the Long Island has been ordered by the New York State Public Service Commission. The inquiry, beginning with a public hearing on March 3, came as a result of the February 17 collision at Rockville Centre, N. Y., which resulted in the deaths of 30 persons and the injury of about 100 others (see last week's *Railway Age*, page 56). To be considered during the investigation are such things as bridges and trestles, physical examinations for various L. I. personnel, land available for double tracking, movement of trains on single-track operations, types of signals used, the road's accidents during the past 10 years and curves, grades and visibility.

A spokesman for the L.I. said this week that over 150 claims have been filed against the road for damages alleged to have resulted from the accident. The amounts of money involved were not disclosed but it was indicated that the road's status as a bankrupt would have no effect on validity of the claims. No claim so far filed against the road had an accompanying legal action, the spokesman added.

Waybill Studies

Two way bill studies have been issued by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. They are Statement No. 502, covering "all terminations in 1947" in commodity classes 701 through 799 and class 950 (Forwarder Traffic) of the Manufacturers and Miscellaneous group, showing the traffic and revenue, by commodity class, territorial movement, length of haul (short-line) and type of rate; and Statement No. 503, Traffic and Revenue in the Products of Forests Group, by Commodity Class, Territorial Movement, Length of Haul (short-line), and Type of Rate—All Terminations in 1948.

Canadian Roads Get 16 Per Cent Freight-Rate Increase

By a unanimous decision rendered at Ottawa, Ont., on March 1, the Board of Transport Commissioners of Canada has authorized Canadian railways to increase their general freight rates by 16 per cent, and rates on coal and coke by 15 cents per ton, both as compared with rates in effect prior to September, 1949. The increase over present rates is approximately 7.4 per cent, and 7 cents per ton on coal and coke.

This increase supplants and includes the interim increase of 8 per cent, and 8 cents per ton on coal and coke, which was approved by the board last September—an award which was challenged by the Canadian Pacific in an appeal to the Supreme Court of Canada. The court, in a December 22, 1949, decision (see *Railway Age* of December 24, page 45) upheld the railway's contention that the board had acted improperly in granting an interim rather than a permanent increase, and hearings on the matter were resumed a few weeks ago.

Over three years ago, the railroads asked for a 30 per cent increase, on which they were finally allowed 21 per cent. They then sought an additional increase of 20 per cent, and the awards of last September and of this week were made in response to that request.

The present increase, which has been unofficially estimated to yield additional gross revenues of about $28 million per year, does not apply to grain or grain products moving in western Canada.

Trainmen-Conductors Case Goes to Emergency Board

An emergency board created by President Truman was scheduled to begin hearings on March 2 at Chicago on the dispute involving demands of the Brotherhood of Railroad Trainmen and Order of Railway Conductors for a 40-hr. week for their members in yard service. The dispute also involves rules changes proposed by the same unions and counter-proposals of the Carriers' Conference Committees representing railroad management.

The President's executive order creating the emergency board was issued February 24, and it brought about postponement of a strike which the unions had called for February 27. Members of the board are Roger I. McDonough, chief justice of the Supreme Court of Utah; Gordon S. Watkins, professor of the University of California (Los Angeles); and M. J. O'Malley, former justice of the Supreme Court of Indiana.

1949 Third-Quarter Loading Estimates 14.4 Per Cent High

The 13 Regional Shippers Advisory Boards overestimated car loadings for the third quarter of 1949 by 14.4 per cent, according to the latest comparison of forecasts with actual loadings issued by Arthur H. Gass, chairman of the Car Service Division, Association of American Railroads. None of the 13 boards turned in an underestimate, and the range of overestimates by individual boards was from 3.3 per cent to 29.7 per cent.

By commodities, there was a range from an overestimate of 33.7 per cent in the case of hay, straw and alfalfa to an underestimate of 32.8 per cent on cotton seed, soybean-vegetable cake and meal, excluding oil. In addition to that on hay, straw and alfalfa, there were overestimates of 32.9 per cent on coal and coke; 31.7 per cent on potatoes; 20.8 per cent on machinery and boilers; 16.9 per cent on petroleum and petroleum products; and 16.3 per cent on lumber and forest products. The next largest underestimate to that noted above was 17.5 per cent on cotton, while others included 7.5 per cent on automobiles and trucks, and 4.9 per cent on flour, meal and other mill products.

COMPARISON: NATIONAL FORECAST WITH ACTUAL CARLOADINGS—THIRD QUARTER 1949

Board	Carloadings Third Quarter 1949 Estimated	Actual	Percentage Over Est'd.
Central Western	296,466	270,679	8.7
Pacific Coast	384,067	347,714	9.5
Pacific Northwest	277,748	260,925	6.1
Great Lakes	682,141	600,084	12.0
Ohio Valley	979,648	688,648	29.7
Mid-West	899,064	809,398	10.0
Northwest	829,273	801,778	3.3
Trans-Mo-Kansas	469,484	403,858	14.0
Southeast	846,884	781,076	7.8
Southwest	556 479	488,521	12.2
New England	104,791	94,613	9.7
Atlantic States	868 863	754,308	13.2
Allegheny	985,033	698,804	29.1
Totals	8,179,941	7,000,406	14.4

Senate Group Favors Giving Carrier Status to Forwarders

The Senate committee on interstate and foreign commerce has reported favorably to the Senate a bill which would amend the Interstate Commerce Act to accord common-carrier status to freight forwarders and stipulate that nothing in the act should be construed to prevent forwarders from "entering into or continuing to operate under contracts" with common-carrier truckers. The bill, S.2113, was introduced as an aftermath of a decision by the Interstate Commerce Commission which fixed terms and conditions under which forwarders may utilize the services and instrumentalities of the motor carriers.

In reporting the bill, the committee requested the commission to further postpone the effective date of the order; and the commission on February 23 met the request by setting back the date from March 1 until May 29. The order accompanied the commission's report in the No. 29493 proceeding (see *Railway Age* of October 9, 1948, page 74). The report determined that motor carriers might charge less than their published tariff rates for performing so-called assembly and distribution services for forwarders; but that contracts or agreements covering terminal-to-terminal trucking would have to provide for forwarder payments no lower than the truckers would receive under their tariffs.

Forwarders objected to this latter requirement and filed an appeal in the United States District Court for the District of Delaware. That court proceeding has remained dormant while the forwarders sought relief from Congress in the form of legislation such as that proposed in S.2113, which the interstate commerce committee's chairman, Senator Johnson, Democrat of Colorado, introduced "by request." The forwarder-

trucker contracts sanctioned by the bill would have to be filed with the commission which would have authority to require their modification in order to make the terms "just, reasonable, and equitable."

Common-Carrier Truckers File Bulwinkle-Act Pact

More than 3,200 common-carrier truckers, who are participants in the National Motor Freight Classification published by American Trucking Associations, have filed with the Interstate Commerce Commission a proposed Bulwinkle-Act agreement covering freight classification matters and other national traffic matters. The commission has docketed the application as Section 5a Application No. 16.

At the same time, a Bulwinkle-Act application filed last year on behalf of A.T.A. was withdrawn. An A.T.A. statement explained that the withdrawn application had "covered classification procedures only, since there was no defined pact, either express or implied, to cover other rate activities in which A.T.A. and its national committee were engaged." A "National Traffic Committee" would be the central organization under the agreement proposed in the new application.

Lets Great Northern Extend Truck Routes

Division 5 of the Interstate Commerce Commission has approved eastward and westward extensions, totaling more than 400 route mi., of the Great Northern's motor truck operations which now parallel its main line for approximately 162 mi. between Havre, Mont., and Browning. The approved extensions will be 309 mi. eastward from Havre to Williston, N. D., and approximately 100 mi. westward from Browning to Whitefish, Mont., Kalispel and Somers.

A third route approved by the division's report will be between Lewiston, Mont., and Billings, 130 mi. The certificate covering the three routes will include the usual conditions designed to insure that the trucking operations remain auxiliary to G. N. rail services. The case was docketed as No. MC-28573 (Sub-No. 5A), and the majority report represented the view of Commissioners Rogers and Patterson.

Commissioner Lee, the third member of Division 5, filed a brief dissenting-in-part expression. He would have refused to grant the Lewiston-Billings route —"in view of the fact," as he puts it, "that existing motor carriers are rendering satisfactory service" between those points. This route will not parallel G. N. rail lines, but the majority report pointed out that it will follow the "only practical highway" between Lewiston and Billings; and that G. N. trucks will provide no service at intermediate points on the route.

Railroads Operating More Than 2,600 Radio Transmitters

Railroad radio services involved operation of 2,601 transmitters as of June 15, 1949, according to a recent Federal Communications Commission summary of units operated pursuant to its "non-broadcast" authorizations. The 2,601 transmitters in railroad services included 213 fixed stations and 2,388 portable or mobile units.

As of the same date bus and truck lines were operating 311 transmitters—7 at fixed stations and 304 mobile units. Largest of the "land transportation" operations were those of taxicab companies, which were operating 2,497 transmitters at fixed stations and 47,974 mobile units.

Freight Car Loadings

Loadings of revenue freight in the week ended February 25, which included the Washington's Birthday holiday, totaled 546,791 cars, the Association of American Railroads announced on March 2. This was a drop of 13,325 cars, or 2.4 per cent, below the previous week, a decrease of 141,337 cars, or 20.5 per cent, under the corresponding week last year, and a decline of 244,119 cars, or 30.9 per cent, below the equivalent 1948 week.

Loadings of revenue freight for the week ended February 18 totaled 560,116 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, February 18

District	1950	1949	1948
Eastern	107,040	134,568	152,893
Allegheny	110,990	150,551	169,337
Pocahontas	20,643	56,381	69,407
Southern	105,642	122,912	140,306
Northwestern	70,173	71,578	83,467
Central Western	93,391	104,140	123,808
Southwestern	53,237	57,205	65,717
Total Western Districts	215,801	232,923	272,992
Total All Roads	560,116	697,335	804,937
Commodities:			
Grain and grain products	38,212	37,806	35,186
Livestock	7,147	7,640	8,338
Coal	48,831	147,860	192,485
Coke	10,520	16,168	15,303
Forest Products	35,471	35,106	46,207
Ore	11,545	13,969	13,452
Merchandise l.c.l.	82,032	94,676	113,801
Miscellaneous	326,358	344,110	380,165
February 18	560,116	697,335	804,937
February 11	568,841	699,442	733,870
February 4	612,524	682,143	746,936
January 28	636,415	679,302	726,345
January 21	618,950	709,837	771,139
Cumulative total weeks	4,134,811	4,923,431	5,422,345

In Canada.—Carloadings for the week ended February 18 totaled 71,675 cars, compared with 71,170 cars for the previous week, and 71,104 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 18, 1950	71,675	27,497
February 19, 1949	71,104	32,174
Cumulative totals for Canada:		
February 18, 1950	458,831	196,584
February 19, 1949	504,169	223,211

Sabotage Suspected

Four railroads in the New York area are taking precautionary measures against apparent derailment attempts on their lines. The Delaware, Lackawanna & Western is running pilot locomotives ahead of all its night passenger trains on a 45-mi. stretch in western New Jersey since the recent discovery, on two separate occasions, of a derailer laid loosely across the tracks on the main line. The first incident occurred at Port Morris, N. J., and the second at Hainesburg. In the latter a piece of old rail also was laid across the tracks. Although no one

What appeared to be a giant Diesel locomotive nearly two city blocks long recently rolled into the Northern Pacific's Northtown yards at Minneapolis, Minn. Actually the equipment consisted of two 4-unit 6,000-hp. freight locomotives and one 3-unit 4,500-hp. passenger locomotive received by the N. P. from the Electro-Motive Division of General Motors Corporation. The 11 units cost $1,800,000. The freight locomotives are to operate between Dilworth, Minn., and Glendive, Mont., while the passenger locomotive will run between St. Paul, Minn., and Seattle, Wash., and between the latter city and Portland, Ore.

was injured, the trains involved were delayed and the Diesel-electric locomotive of each was slightly damaged

The Lehigh Valley, the Central of New Jersey and the New York, Susquehanna & Western also have adopted precautionary measures. Henry K. Norton, trustee of the Susquehanna, reported the theft of a derailer from an industrial siding in Midland Park, N. J., and said the road is using track motor-car patrols and railroad police to guard against sabotage attempts. A derailer also has been stolen from the L.V., which is patrolling in front of all trains. The C. of N.J. announced that a 55-gal. steel barrel, flattened to prevent its rolling, was struck this week by an iron ore train between Green Pond, N. J., and Allentown, Pa. Damage was not serious.

Issues Directory of Railroad Freight Accounting Offices

The Accounting Division of the Association of American Railroads has issued a directory of freight accounting offices to which waybill corrections, statements of differences, and other communications relating to interline freight accounts should be addressed. As Secretary E. R. Ford explained in the foreword, the directory was published pursuant to a recommendation made at the division's 1949 annual meeting by its Committee on Freight Accounts.

The listings show the names of the carriers and the addresses of their freight accounting offices; and it is suggested that the correspondence involved be addressed to "Freight Accounting Officer" at the address given. The foreword pointed out that, by omitting the names of accounting officers, the necessity for frequent revision of the directory will be avoided.

It is expected that use of the directory will have the effect of cutting accounting labor costs by reducing correspondence; and Mr. Ford suggested that it should be "of substantial benefit not only to freight accounting officers, but also to agents and other carrier representatives." It is 10 cents per copy, and orders should be addressed to the Accounting Division, A.A.R., 330 Transportation building, Washington 6, D. C.

Western Pacific Tries Budd Car In Revenue Service

RDC-1, Budd Company's Diesel rail car, received its first trial in revenue service on the Western Pacific from January 18 through January 27, when it substituted for standard steam trains Nos. 1 and 2 on the 607-mi. portion of their runs between Portola, Cal., and Salt Lake City, Utah. For the demonstration runs, the forward part of the car was stripped of seats and used for head-end traffic, loaded through vestibule doors. For the duration of the tests, the Railway Express Agency cooperated by diverting oversize and livestock shipments. As an outcome of the experiment, the Western Pacific promptly placed an order for a car with a 17-ft. baggage compartment and seating space for 70 passengers, designated by the Budd Company as RDC-2. (See *Railway Age* of February 4, page 67.)

After test service on the Western Pacific, Budd Company's Diesel rail car spent a Sunday on the Sacramento Northern, chartered by the Bay Area Electric Railroad Association. The RDC-1—shown at Yuba City, Cal.—was fitted with a welded stainless-steel sheathed pilot prior to its test runs on the W. P.

In the test, the single rail car served as a complete train and proved to be an adequate substitute for the usual steam-powered two-car consist of trains Nos. 1 and 2. Operational costs were about one-half those of the steam train equivalents. In 6,000 mi. of service, the car averaged 2.8 mi. per gallon of Diesel fuel, at a cost of slightly more than three cents a mile. Comparative fuel costs for the steam service averaged 22 cents a mile. The terrain over which the tests were conducted includes a crossing of the Sierra Nevadas at Beckworth pass, the Nevada desert country, and the descent from the plateau lands to the floor of Great Salt Lake desert, where Bonneville Flats are crossed on a 43-mi. tangent.

The Budd car was purchased to answer a specific passenger service problem. All efforts to operate trains Nos. 1 and 2 ("Royal Gorge") at a profit had failed, and an out-of-pocket loss approaching $1 million annually was resulting. (The fate of Nos. 1 and 2 was discussed in a letter to employees from Western Pacific President F. B. Whitman quoted in *Railway Age* of February 18, page 65.) When the Budd car is received in April, 1950, it will be placed in service between Sacramento and Salt Lake City, 789 mi., making three round trips a week.

More Time for Presentations On New 28300 Rate Scale

The Interstate Commerce Commission has further postponed, from February 28 until March 31, the deadline date for the filing of presentations on its proposed substitute for the basic scale of first-class rates which its report in the No. 28300 Class Rate Investigation prescribed for application in connection with the uniform classification that the railroads are now preparing pursuant to the commission's findings in the No. 28310 investigation of that matter (see *Railway Age* of December 3, 1949, page 57).

The March 31 deadline applies with respect to the filing of verified statements embodying the parties's "evidence in chief," and the new schedule fixes May 1 as the date by which rebuttal evidence must be filed.

Rail and Labor Executives Call for Courteous Service

Representatives of railroad labor organizations and a group of railroad presidents, meeting in Washington, D. C., on February 23, unanimously adopted a statement dealing with courtesy, good will and service, and methods for their improvement. The meeting was one of a series of like sessions that are being held occasionally for discussion of the industry's problems.

The latest previous session was held September 29, 1949, also in Washington (see *Railway Age* of October 8, 1949, page 79). The joint statement adopted at the February 23 meeting stressed the importance of the relations of the industry with customers and with the public.

"The quality of the railroad industry's public relations depends upon what employees do as well as upon what they say," it said, "and actions speak louder than words." Recognizing the responsibility of both management and workers in producing a high quality of service, the statement called upon both to "be alert in the never-ending search for means to effect still greater improvement," combined with an "earnest desire to meet the customer's wishes with courtesy and consideration."

"It is only through the concerted efforts of all individuals, groups and de-

partments," the statement continued, "that efficient operation of the business can be attained, and unless we have efficiency of operation, efforts to obtain the customer's good will are as a result affected."

Joint presiding officers at the meeting were H. W. Fraser, president of the Order of Railway Conductors and chairman of the Railway Labor Executives' Association, and William T. Faricy, president of the Association of American Railroads. Members of the committee which drafted the joint statement were Mr. Fraser; George M. Harrison, president, Brotherhood of Railway Clerks; G. E. Leighty, president, Order of Railroad Telegraphers; T. C. Carroll, president, Brotherhood of Maintenance of Way Employees; J. T. Corbett, assistant grand chief engineer and national legislative representative, Brotherhood of Locomotive Engineers; William White, president, Delaware, Lackawanna & Western; Fred G. Gurley, president, Atchison, Topeka & Santa Fe Lines; and Ernest E. Norris, president, Southern.

Additional General News appears on pages 76 through 82.

CAR SERVICE

The I.C.C. has set back, from February 25 until April 25, the expiration date of Service Order No. 844 which gives railroads first call on coal produced by their usual suppliers (see *Railway Age* of December 31, 1949, page 46).

The I.C.C. has set back, from February 28 until April 30, the expiration date of Service Order No. 817, which authorizes the use of giant refrigerator cars at freight rates applicable to the same commodities loaded in standard reefers.

Special regulations governing use of special-type and heavy-capacity flat cars became effective March 1. They were issued by Chairman Arthur H. Gass of the Car Service Division, Association of American Railroads, in a February 23 circular, and they apply to all special-type flat cars with mechanical designations FW, FD, FG of all capacities and to flat cars designated FM with capacity of 151,000 lb. or more.

The regulations stipulate that no foreign car covered by the circular shall be "utilized for loading . . . or diverted empty from normal channel of movement" without authorization of the car owner or C.S.D. It is further required that when the involved foreign cars are loaded, the loading road shall furnish C.S.D. "prompt mail advice showing (a) car initial and number, (b) origin station, (c) date billed and (d) destination with complete routing." These reporting requirements apply to cars used in local as well as interline service.

As to home cars involved, the owners are required to make like reports on all loading of the cars for interline movement, but not on loadings for local movement. The owners are requested, however, to make semi-monthly reports as to the location and assignment of the covered flats which are on home rails. Terminating roads of loaded foreign flats are requested to advise C.S.D. by wire when such cars are released at destination.

EQUIPMENT AND SUPPLIES

Domestic Equipment Orders Reported in February

Domestic orders for 297 Diesel-electric locomotive units, 9,050 freight cars and 3 rail Diesel passenger cars were reported in *Railway Age* last month. Estimated cost of the locomotive units is $38,965,000, of the freight cars $46,500,000, and of the rail Diesel cars $385,300. An accompanying table lists the orders in detail.

During the first two months of 1950 *Railway Age* has reported domestic orders for 476 Diesel-electric locomotive units costing about $64,241,000, 14,675 freight cars costing approximately $79,025,000, and the three rail Diesel cars mentioned previously.

FREIGHT CARS

The **Detroit, Toledo & Ironton** has ordered 250 50-ton, 40½-ft. box cars from the Greenville Steel Car Company.

The **Gulf, Mobile & Ohio** has ordered 100 70-ton covered hoppers from the American Car & Foundry Co.

The **Seaboard Air Line** has ordered 300 70-ton phosphate hopper cars from the Pullman-Standard Car Manufacturing Company.

The **Lehigh Valley** is inquiring for 500, or 1,000, or 1,500 55-ton steel-sheathed box cars.

SIGNALING

The **Norfolk & Western** has ordered from the Union Switch & Signal Co. material to replace the electric interlocking at Welch, W. Va., with an electro-pneumatic interlocking. The new 5-ft. style C control machine will also be used to control remotely switches and signals at two crossovers at Big Four, W. Va., 5.5 mi. east of Welch, and switches and signals at Farm, W. Va.,

Locomotives

Date	Purchaser	No.	Type	Builder
Feb. 4	S.A.L.	12	1,500-hp. D.-E. road	Electro-Motive
		11	1,600-hp. D.-E. road	American-G.E.
		3	1,000-hp. D.-E. switch.	Baldwin
Feb. 11	N.Y.C.	4*	2,250-hp. D.-E. "A" pass.	American-G.E.
		8	1,500-hp. D.-E. rd.-sw.	American-G.E.
		19	1,000-hp. D.-E. switch.	American-G.E.
		30	600-hp. D.-E. switch.	American-G.E.
		12	1,500-hp. D.-E. rd.-sw.	Electro-Motive
		6	1,200-hp. D.-E. switch.	Electro-Motive
		18	1,000-hp. D.-E. switch.	Electro-Motive
		2	800-hp. D.-E. switch.	Electro-Motive
		12	600-hp. D.-E. switch.	Electro-Motive
		16	1,000-hp. D.-E. rd.-sw.	Lima-Hamilton
		10	1,000-hp. D.-E. switch.	Fairbanks, Morse
Feb. 11	S.A.L.	18	1,600-hp. D.-E. road	American-G.E.
		18	1,500-hp. D.-E. road	Electro-Motive
Feb. 18	C. & N.W.	36†	1,500-hp. D.-E. "A" frt.	Electro-Motive
		4	2,250-hp. D.-E. "A" pass.	Electro-Motive
		3	1,600-hp. D.-E. rd.-sw.	American-G.E.
		10	1,000-hp. D.-E. switch.	American-G.E.
		6#	1,600-hp. D.-E. rd.-sw.	Fairbanks, Morse
		2	1,200-hp. D.-E. switch.	Fairbanks, Morse
Feb. 18	Cinn. U. Term.	2	750-hp. D.-E. switch.	Lima-Hamilton
Feb. 18	U.P.	10	2 250-hp. D.-E. passenger	Electro-Motive
		25	1,200-hp. D.-E. term. sw.	Electro-Motive

Freight Cars

Feb. 4	C. of Pa.	125	70-ton Hopper	Bethlehem
Feb. 4	C. & E.I.	25	70-ton Cov. Hopper	Pullman-Standard
Feb. 4	D.L. & W.	300	70-ton Cov. Hopper	Amer. Car & Fdy.
Feb. 4	S.P.	2,000	50-ton Box	Pullman-Standard
		1,000	50-ton Auto	R. R. Shops
		100	70-ton Gondola	Ralston
Feb. 11	C.R.I. & P.	1,000	50-ton Box	Amer. Car & Fdy.
Feb. 18	N.Y.C.	1,500	55-ton Box	Pullman-Standard
		500	55-ton Box	Despatch Shops
		1,000‡	55-ton Box	Despatch Shops
		1,500‡	70-ton Gondola	Despatch Shops

Passenger Cars

Feb. 4	N.Y.C.	2*	Rail Diesel Car 1	Budd
Feb. 4	W.P.	1	Rail Diesel Car 2	Budd

* Boston & Albany.
† Six for Chicago, St. Paul, Minneapolis & Omaha.
# One for C. St. P. M. & O.
‡ ror Pittsburgh & Lake Erie.

4 mi. west of Welch, involving a crossover and new wye-track switches. New T-21 switch stands, with SL-21A locks, will be installed at all main-track, hand-operated switches between the wye tracks and Big Four, and signals will be arranged to govern train operation in either direction on both tracks between these points. Field installation will be handled by railroad forces.

SUPPLY TRADE

"Caterpillar" to Build Large Plant Near Joliet, Ill.

The Caterpillar Tractor Company, Peoria, Ill., has acquired approximately 300 acres of land near Joliet, Ill., on which it will immediately start construction of a new factory to manufacture a large portion of its line of bulldozers, scrapers, wagons and rippers. The project will include a modern steel fabricating and assembly building, an office building, a heating plant, and a sewage and water treatment plant. The facilities will cover approximately 700,000 sq. ft., and it is estimated that some 1,300 people will be employed in operation thereof.

T. R. Farley, vice-president of Caterpillar, is to be general manager of the new factory.

General Railway Signal 1949 Net Was $957,454

Net income of the General Railway Signal Company and subsidiaries for 1949 was $957,454, compared with $1,401,472 in the preceding year, according to the recently released annual report. Shipments, the report said, were 20 per cent less than in 1948 because of a smaller carryover and curtailment in railroad purchases. The volume of unfilled orders at the end of the year represented "some six months of operation at the current rate."

The **Automatic Transportation Company,** Chicago, has appointed Nook & O'Neill, Inc., 10028 Carnegie avenue, Cleveland, Ohio, as Northwestern Ohio distributor for Automatic's Skylift and Transporter lines of materials handling trucks.

The **Whiting Corporation,** Harvey, Ill., has moved its Philadelphia (Pa.) district sales office from Broad Street Station building to 9 Rittenhouse place, Ardmore, Pa., telephone, Ardmore 8100. **G. M. Dennis** continues as district manager.

R. H. Wood, general counsel of the **Union Switch & Signal Co.,** has been elected vice-president and general counsel, with headquarters at Swissvale, Pa. Mr. Wood was graduated from Ohio State University with a degree in electrical engineering and from Duquesne University with a law degree. He joined the engineering department of Union Switch & Signal in July, 1922, and later that year was transferred to the patent department. In 1936 he was named patent attorney and, in 1943, he was appointed assistant to the general manager. He was appointed assistant general manager in July, 1944, and elected general manager in April, 1945. Mr. Wood was appointed general counsel in July, 1946. He also is general counsel of the Westinghouse Air Brake Company.

R. H. Wood

Carl R. Moline has been appointed chief engineer of improvement of present products and development of new products for **Spring Packing Corporation,** Chicago. Mr. Moline was formerly manager of the field research branch for Pullman-Standard Car Manufacturing Company. Graduating from the University of Iowa in 1933 with a degree in mechanical engineering, he subsequently spent four years with Shafer Pen Company. He also served two years with the Ajax Hand Brake Company as field engineer on installation and maintenance of hand brake equipment on all types of freight cars. Later, as chief engineer for the Allied Railway Equipment Company he became co-inventor of many parts of trucks used in high speed freight and passenger service. Mr. Moline joined Pullman-Standard in 1946 to aid in development of a research division for designing new cars and improving present rolling equipment, both freight and passenger. He was subsequently appointed manager of the field research branch.

Carl R. Moline

The **Dixie Cup Company,** Easton, Pa., has appointed **A. H. Pickup,** formerly Philadelphia, Pa., sales office manager, as regional manager of the south central region, with headquarters at Fort Smith, Ark., and **J. R. Bennett,** formerly Dixie food container representative in the south Atlantic region, as sales manager of that region, with headquarters at Darlington, S. C. The company also has appointed **R. C. Albany** as Philadelphia sales office manager, and **W. S. Birkhead** as Dixie drink vending representative in the middle Atlantic region.

A. H. Pickup

J. R. Bennett

Eight new engineering appointments have been made by the **Union Switch & Signal Co.,** at Swissvale, Pa., as follows: **George W. Baughman** has been appointed assistant vice-president in charge of engineering; **Frank H. Nicholson,** chief engineer; **H. G. Blosser,** assistant chief engineer; **H. A. Thompson,** chief signal

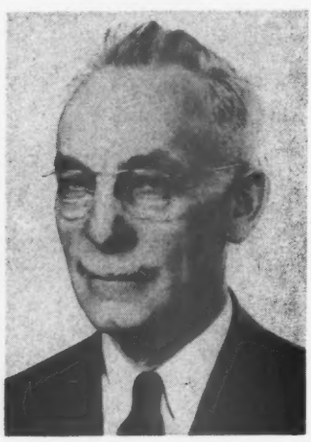
engineer; **C. W. Bell,** chief commercial engineer; **A. W. Fisher,** consultant in engineering; **B. Lazich,** electrical engineer; and **L. R. Allison,** train control engineer.

Mr. Baughman was graduated in electrical engineering from Ohio State University in 1920, and received a professional degree in electrical engineering from the same school in 1924. He worked

George W. Baughman

in the development laboratories of the Bell Telephone System from 1920 to 1923 and, in the latter year, joined Union Switch & Signal. He was engaged principally in field and development work associated with railway signalling and braking and, on July 1, 1944, was appointed assistant chief engineer in charge of electronics. On March 1, 1945, Mr. Baughman was appointed chief engineer, the position he held at the time of his recent appointment.

Mr. Nicholson worked part time on various installations with field construction forces of the Federal Signal Com-



Frank H. Nicholson

pany, Albany, N. Y., from 1909 to 1911, while attending Cornell University. After he was graduated from Cornell in 1912, he joined Union Switch & Signal in the Engineering department and, between 1912 and 1915, worked in both the Chicago and Swissvale offices. He worked as circuit designer for the Interborough Rapid Transit System of New York from 1915 to 1916, in which year he joined the New York, New Haven & Hartford as signal inspector for the system, later advancing to assistant engineer of signals. Mr. Nicholson rejoined Union Switch & Signal in 1919 to take an active part in the development of automatic train control and cab signaling, and later in the development of coded track circuit signaling. In 1945, he was appointed assistant chief engineer, the position he held at the time of his recent appointment.

Mr. Blosser studied electrical engineering for two and one-half years at West Virginia University before entering the Naval Flying Corps during World War I. He completed his studies at the Carnegie Institute of Technology night school. He first joined Union Switch & Signal in June, 1916, while attending college and since 1919 his service has been continuous. He was connected with the early development of the coded cab signal system and represented the company in the first road demonstration of this system in 1926 on the Philadelphia, Pa.,

H. G. Blosser

division of the Pennsylvania. Mr. Blosser also has been active in the development of coded wayside signal equipment and systems; has been head of the train control engineering section for the past four years; and has supervised the development of coded cab signal and coded wayside signal systems. During his employment with Union Switch & Signal he has spent considerable time with various railroads in an advisory capacity.

Mr. Thompson was graduated from the University of Pittsburgh in 1915 with a B.S. degree in electrical engineering. He joined Union Switch & Signal and completed the engineering apprenticeship course, after which he worked for the I.R.T. (New York) until World War I. He served as first lieutenant in the Engineer Corps for two years. At the completion of his service he joined the heavy traction engineering department of the Westinghouse Electric & Manufacturing Co. In 1920 Mr. Thompson rejoined Union Switch & Signal, working mostly in design and development of signal systems. He was appointed signal engineer in 1946, which position he held at the time of his recent appointment.

H. A. Thompson

Mr. Bell joined Union Switch & Signal in 1925 as an estimating engineer. In 1938 he was appointed supervisor of general engineering, the position he held until his recent appointment.

Mr. Fisher has been active for the past 25 years on various engineering committees of the Signal Section, Association of American Railroads, and for the past five years has been supervising all engineering activities of Union Switch & Signal where required for consultation in this connection. Mr. Fisher will continue A.A.R. committee consultation in addition to other special duties.

Mr. Lazich has been associated with the engineering department of Union Switch & Signal since February, 1926. From March, 1935, until his recent appointment, he supervised the d.c. relay design group.

Mr. Allison joined Union Switch & Signal in August, 1922. At the time of his recent appointment he was in charge of locomotive train control apparatus development.

The **Lift Truck Service Company,** Chicago, has inaugurated a new specialized service for rebuilding all types of internal combustion engines of any size. **K. T. Batchelder,** 205 West Wacker drive, Chicago, has been appointed manager of railroad sales for the company.

J. Donald Rollins, planning engineer of the **Carnegie-Illinois Steel Corporation (United States Steel Corporation** subsidiary), with headquarters at Pittsburgh, Pa., has been promoted to assistant chief engineer at that point. **Norman C. Michels,** assistant to the president of a clay products company since 1947, returns to Carnegie-Illinois to succeed Mr. Rollins. Mr. Michels was formerly a special engineer in the corporation's general offices. **Harry C. Hunter,** general supervisor of construction at the Gary steel

works, has been appointed contract engineer at Pittsburgh.

Edward J. Littleton has been appointed manager of railroad sales of the **Jennison-Wright Corporation.** Mr. Littleton began his business career with the Chicago, Milwaukee, St. Paul & Pacific in 1928 as buyer of forest products. He left the Milwaukee in 1940 to enter the wood preserving industry, serving railroads, utilities and industry. He joined Jennison-Wright in September, 1947.

OBITUARY

Frank Speno, president of the Frank Speno Railroad Ballast Cleaning Company, Ithaca, N. Y., died in that city on March 1. He was 78 years of age.

ORGANIZATIONS

The **Passenger, Ticket & Freight Agents' Association of Texas** will hold its forty-fourth annual convention in the Gunter hotel, San Antonio, Tex., on April 22 and 23. John W. Scott, vice-president—traffic, Kansas City Southern, will address the group on "How We Can Improve the Public's View of Our Railroads." E. A. Bohmeyer, passenger traffic manager, Missouri-Kansas-Texas, will act as toastmaster.

The 81st regular meeting of the **Pacific Coast Transportation Advisory Board** will be held on March 15 and 16 at the Alexandria Hotel, Los Angeles, Cal. Z. G. Hopkins, special representative, Association of Western Railways, Chicago, will be the speaker at the luncheon session on the 16th.

CONSTRUCTION

Baltimore & Ohio.—This road has awarded two contracts for work involved in construction of its new $5,000,000 import ore pier in the port of Baltimore, Md. (see *Railway Age* of January 14, page 47). Award for the construction work was made to the Empire Construction Company, Baltimore, and the contract for dredging the channel adjacent to the pier has been given to the Arundel Corporation, also of Baltimore. Award of a contract to the Dravo Corporation, Pittsburgh, Pa., for manufacture and installation of two ore-handling machines and other equipment in the new pier was reported in *Railway Age* of February 18, page 72. Actual construction work is scheduled to begin about March 15.

New York Central.—This road will install 38 mi. of centralized traffic control between Mattoon, Ill., and Pana on its Illinois division. Work is scheduled to begin this spring and to be completed within an eight-month period.

FINANCIAL

Illinois Northern.—*Purchased by Four Roads.*—The capital stock of this company, a wholly owned subsidiary of the International Harvester Company, has been purchased by the Atchison, Topeka & Santa Fe (51 per cent), the Chicago, Burlington & Quincy (25 per cent), the Pennsylvania (12 per cent) and the New York Central (12 per cent). The acquired railroad is a switching line which operates approximately 11 mi. of freight trackage, and maintains various terminal facilities in the Chicago metropolitan area. The new board of directors consists of L. R. Capron, vice-president—traffic, Burlington; J. J. Brinkworth, vice-president, N. Y. C.; Paul E. Feucht, vice-president, P.R.R.; and R. G. Rydin, E. S. Marsh and G. H. Minchin, vice-presidents, and A. C. Jepson, assistant to vice-president, Santa Fe. I.C.C. approval of the purchase was reported in the *Railway Age* of January 21, page 56.

Lehigh Valley.—*New Director.*—Baldwin Maull, vice-president and a director of the Marine Midland Trust Company of New York, has been elected to this road's board of directors to succeed the late Edgar H. Boles.

Pennsylvania.—*Control of Elmira & Williamsport.*— Division 4 of the I.C.C. has authorized this road to acquire control of the Elmira, its lessor, by exercising voting rights of the latter's first mortgage bonds. The bonds, scheduled to mature January 1, 1950, have been extended 40 years with the P.R.R. assuming liability for them. Each $1,000 bond entitles its holder to 20 votes. The P.R.R. proposes to acquire the $916,000 in bonds now held by the public, and this ownership, plus preferred and common stock already held, will give the Pennsylvania approximately 71.6 per cent control. The Elmira consists of 72.3 mi. of single-track line, with 30.5 mi. of sidings, between Williamsport, Pa., and Elmira, N. Y. The P.R.R. has operated the properties since 1914.

Pennroad Corporation.—*Annual Report.*—Net income of this company for 1949, excluding gain on investments, was $2,089,073, a decrease of $629,663 under 1948, according to the recently released annual report. In addition there were net realized profits on sales of securities of $3,565,114, compared with $496,132. The aggregate earnings of $5,654,187 for 1949 amounted to $1.13 a share, compared with 64.3 cents a share in 1948. Because of the recent declaration of two dividends (see *Railway Age* of November 26, 1949, page 60), no further consideration will be given to dividends until the latter part of 1950, the report said. "At that time," the report added, "the directors will review the situation in the light of the results of its program designed to convert large concentrated holdings in the railroad field into more diversified investments, and the general conditions then prevailing."

New Securities

Applications have been filed with the Interstate Commerce Commission by:

Central of New Jersey.—To assume liability for $1,350,000 of its own equipment trust certificates, series A, and to assume liability jointly with its affiliate, the Central of Pennsylvania, for $1,815,000 of the latter's equipment trust certificates, series A. Proceeds of the former issue would finance in part the acquisition of 12 Diesel-electric locomotives at an estimated total cost of $1,702,136, while the Pennsylvania company's proposed issue would finance in part the acquisition of 12 Diesel-electric locomotives and 125 covered hopper cars at an estimated total cost of $2,277,768. The equipment was listed in the application as follows:

Description and Builder	Estimated Unit Cost
For Central of New Jersey	
3 1,600-hp. road switching locomotives (American Locomotive Company)	$148,982
5 1,000-hp. road switching locomotives (American)	122,710
4 1,600-hp. "all purpose" locomotives (Fairbanks, Morse & Co.)	160,410
For Central of Pennsylvania	
5 1,600-hp. road switching locomotives (American)	143,635
3 1,000-hp. switching locomotives (Baldwin Locomotive Works)	97,500
4 1,200-hp. switching locomotives (Electro-Motive Division, General Motors Corporation)	97,500
125 Covered hopper cars of 70 tons capacity (Bethlehem Steel Company)	7,017

Both issues would be dated April 1, and both would mature in 15 equal annual installments beginning April 1, 1951, the installments on the $1,350,000 issue being $90,000 and those on the $1,815,000 issue $121,000. The issues have been sold, subject to commission approval, to Salomon Bros. & Hutzler, which submitted the most favorable bids. Its bid on the $1,350,000 issue was 99.308 with a 2½ per cent interest rate, which would make the average annual cost to the C.N.J. 2.5865 per cent; its bid on the $1,815,000 issue was 99.308 with a 2⅜ per cent interest rate, which would make the average annual cost to the Pennsylvania company 2.4615 per cent.

Chicago, Burlington & Quincy.—To assume liability for $10,200,000 of equipment trust certificates, proceeds of which would finance 80 per cent of the purchase price of 40 Diesel-electric locomotives to be acquired from the Electro-Motive Division of General Motors Corporation and 30 gallery-type suburban passenger cars to be built by the Budd Company. The cars, costing $159,300 each are to be of all-stainless steel construction, and they will have seats for 148 passengers—96 on the lower level

and 52 on the upper. The locomotives were listed in the application as follows:

Description	Estimated Unit Cost
3 4,500-hp., three-unit freight	$482,250
4 4,500-hp., two-unit passenger ...	461,600
9 2,250-hp. passenger	230,800
4 1,500-hp. freight	166,500
20 1,200-hp. switching	97,600

The certificates, dated March 1, would mature over a 15-year period in 30 semi-annual installments of $340,000 each, beginning September 1, and would be sold on competitive bids, with the interest rate to be fixed by such bids.

International-Great Northern.—To assume liability for $900,000 of equipment trust certificates, series DD, to finance in part the acquisition, at an estimated total cost of $1,196,315, of 7 Diesel-electric locomotives as follows:

Description and Builder	Estimated Unit Cost
2 2,250-hp. passenger locomotives American Locomotive Company) ..	$221,133
2 1,500-hp. freight locomotives (Electro-Motive Division, General Motors Corporation)	155,755
3 1,500-hp. freight switching locomotives (Electro-Motive)	147,513

The certificates, dated April 1, would mature in 15 annual installments of $60,000 each beginning April 1, 1951. They would be sold on the basis of competitive bids and the interest rate would be fixed by such bids.

Missouri Pacific.—To assume liability for $3,000,000 of equipment trust certificates, series NN, to finance in part the acquisition of 21 Diesel-electric locomotives at an estimated total cost of $3,753,498. The locomotives were listed in the application as follows:

Description and Builder	Estimated Unit Cost
3 4,800-hp. freight locomotives, each consisting of 2 1,600-hp. "A" units and 1 1,600-hp. "B" unit (American Company)	$453,653
2 2,250-hp. passenger locomotives (American)	221,133
3 1,500-hp. freight and passenger switching locomotives (Electro-Motive Division, General Motors Corporation)	157,313
4 1,500-hp. freight switching locomotives (Electro-Motive)	147,513
9 1,000-hp. switching locomotives (Baldwin Locomotive Works)	98,698

The certificates, dated April 1, would mature in 15 annual installments of $200,000 each, beginning April 1, 1951. They would be sold on the basis of competitive bids and the interest rate would be fixed by such bids.

So. Louis, Brownsville & Mexico.—To assume liability for $975,000 of equipment trust certificates, series DD, to finance in part the acquisition, at an estimated total cost of $1,248,595, of 9 Diesel-electric locomotives as follows:

Description and Builder	Estimated Unit Cost
5 1,500-hp. freight switching locomotives (Electro-Motive Division, General Motors Corporation)	$147,513
2 1,500-hp. freight locomotives (Electro-Motive)	155,755
2 1,000-hp. switching locomotives (Baldwin Locomotive Works)	99,760

The certificates, dated April 1, would mature in 15 annual installments of $65,000 each, beginning April 1, 1951. They would be sold on the basis of competitive bids and the interest rate would be fixed by such bids.

Western Maryland.—To assume liability for $2,460,000 of series N equipment trust certificates to finance in part the following Diesel-electric locomotives:

Description and Builder	Estimated Unit Cost
8 1,500-hp. road freight "A" units (Electro-Motive Division, General Motors Corporation)	$164,697
4 1,500-hp. road freight "B" units (Electro-Motive)	150,133
4 1,500-hp. road switchers (Electro-Motive)	144,591
4 1,500-hp. road switchers (American Locomotive Company)	147,463

The application placed total cost of the equipment at $3,086,000, and said this acquisition is the first step in a plan to substitute Diesel-electric power for steam locomotives on W.M. lines east of Hagerstown, Md. The 20 locomotives will save the W.M. $800,000 a year, the application said. The certificates have already been sold, subject to I.C.C. approval, to Halsey, Stuart & Co. at 100.1089 with interest at 2½ per cent. If approved, the certificates will be dated March 15 and mature in 15 annual installments of $164,000 each, beginning March 15, 1951.

Division 4 of the I.C.C. has **authorized:**

Georgia & Florida.—To assume liability for $950,000 of 3 per cent equipment trust certificates to be sold to the Reconstruction Finance Corporation at par and accrued interest. The proceeds will be used to finance approximately 90 per cent of the cost of 9 Diesel-electric locomotives purchased from the Electro-Motive Division, General Motors Corporation. Six of the locomotives are to be 1,500-hp. road switchers, and the other three 600-hp. switch engines. The new equipment is expected to cost $1,050,759. The certificates will mature over a 10-year period. Commissioner Mitchell filed a brief concurring opinion to say he would have required the G.&F. to deposit the first of each month in trust account for the R.F.C. "An amount equal to one-twelfth of the interest and payment due upon this loan."

Dividends Declared

Beech Creek.—50¢, payable April 1 to holders of record March 3.

Boston & Albany.—$2.00, payable March 31 to holders of record February 28.

Delaware, Lackawanna & Western.—25¢, payable April 1 to holders of record March 15.

Minneapolis, St. Paul & Sault Ste. Marie.—$1.00, payable April 1 to holders of record March 15.

Union Pacific.—common, $1.25, quarterly; preferred, $1.00, semiannual; both payable April 1 to holders of record March 6.

Average Prices Stocks & Bonds

	Feb. 28	Prev. week	Last year
Average price of 20 representative railway stocks	42.48	42.68	39.33
Average price of 20 representative railway bonds	92.49	92.06	87.36

RAILWAY OFFICERS

EXECUTIVE

Evan B. Hawken, superintendent of pensions and staff registrar of the Canadian National at Montreal, Que., has been appointed assistant to vice-president, personnel.

Charles A. Skog, vice-president and general manager of the Grand Trunk Western, with headquarters at Detroit, Mich., has been elected also president of the Detroit Terminal.

Willard H. Kyle, general manager of the Central region of the Canadian National at Toronto, Ont., has been appointed assistant vice-president, operation, at system headquarters, Montreal, Que., succeeding **Stanley F. Dingle,** whose appointment as vice-president in charge of operation of the system was reported in the *Railway Age* of February 11, page 64. A biography and photograph of Mr. Kyle were published in the *Railway Age* of March 19, 1949, page 108.

A. Lyle, assistant to the vice-president of the Canadian Pacific at Montreal, Que., has been appointed to succeed the late **H. J. Main,** with the same title and headquarters as heretofore. **J. N. Fraine,** general manager of the Quebec Central (C.P.R.) at Sherbrooke, Que., has been appointed assistant to the vice-president at Montreal, succeeding Mr. Lyle. Mr. Fraine was born at Medicine Hat, Alta.,

J. N. Fraine

in 1912 and received his civil engineering degree from the University of Manitoba. He was appointed assistant superintendent of the C.P. in 1943, serving successively at Lethbridge, Alta., North Bay, Ont., Schreiber, and Toronto, until January, 1947, when he became superintendent of the Laurentian division at Montreal. Mr. Fraine was appointed general manager of the Q. C. at Sherbrooke, in August, 1947.

G. H. Minchin, vice-president of the Atchison, Topeka & Santa Fe, at Chicago, has been elected also president of the Illinois Northern, which has been purchased by the Santa Fe, the Chicago, Burlington & Quincy, the Pennsylvania and the New York Central, as noted in the financial columns of this issue.

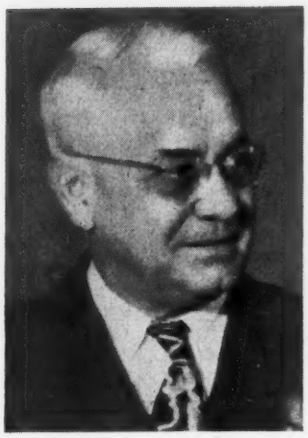
FINANCIAL, LEGAL & ACCOUNTING

Jeremiah J. O'Neill, assistant comptroller of the New York, New Haven & Hartford, has been appointed comptrol-

ler, with headquarters as before at New Haven, Conn., succeeding **Leo V. Sullivan**, who has resigned. **Frederick W. French**, assistant treasurer, has resigned, after 44 years of service.

Elwyn B. Kennedy, auditor of the Detroit Terminal at Detroit, Mich., has been elected assistant secretary at that point.

Vernon L. Gish, whose appointment as secretary-treasurer-auditor of the St. Louis Southwestern of Texas, with headquarters at Tyler, Tex., was reported in the *Railway Age* of February 11, is a native of Stafford, Kan. He entered railroad service with the Cleveland, Cincinnati, Chicago & St. Louis at Indianapolis,



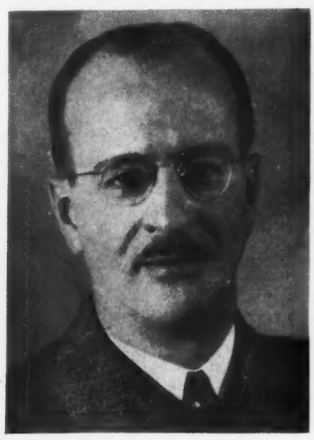
Vernon L. Gish

Ind., in 1909. Mr. Gish served with the Missouri Pacific Lines from 1913 to 1915, at which time he joined the Cotton Belt's accounting department at St. Louis, Mo. Subsequently he held positions as joint facility accountant and traveling accountant at that point; prior to his recent appointment he was serving as auditor of disbursements at St. Louis.

The following men, in addition to their present duties, have been elected also to positions with the Illinois Northern, which has been purchased from the International Harvester Company by the Atchison, Topeka & Santa Fe, the Chicago, Burlington & Quincy, the Pennsylvania and the New York Central: Secretary and treasurer, **H. B. Fink**, who holds a similar position with the Santa Fe at Topeka, Kan.; auditor, **Dale McGrath**, who is auditor of disbursements for the Santa Fe at Topeka; and general solicitor, **R. S. Outlaw**, who holds that position with the Santa Fe at Chicago.

Paul S. Burke, special accountant in the comptroller's office of the Northern Pacific at St. Paul, Minn., has been promoted to auditor-taxes, succeeding to the duties of the late **William C. Pinger**, assistant comptroller-taxes, whose death was reported in the *Railway Age* of February 4. A native of Spokane, Wash., Mr. Burke later moved to St. Paul, where he attended Lincoln school, Johnson high school and the Extension division of the University of Minnesota. He entered N. P. service in the accounting department in 1915, becoming special accountant in the comptroller's office in 1920.

Douglas Irving Grant, whose appointment as secretary of the Canadian National and subsidiaries at Montreal, Que., was reported in the *Railway Age* of February 25, was born at Orillia, Ont., on February 1, 1901. Mr. Grant attended



Douglas Irving Grant

St. Andrews College, Toronto, Ont., and the University of Toronto. He served with the law firm of Johnston, McKay, Dods & Grant at Toronto, and was graduated from Osgoode Law School in 1926. Mr. Grant joined the law department of the C.N. as a solicitor at Toronto in August, 1930, and in February, 1948, was appointed assistant secretary of the railway at system headquarters in Montreal. He was appointed a King's Counsel in 1946.

J. N. Davis, general attorney for the Chicago, Milwaukee, St. Paul & Pacific, at Seattle, Wash., retired on February 28, following 37 years of service. **Thomas H. Maguire**, assistant general attorney at Seattle, succeeds Mr. Davis, and is replaced in turn by **B. E. Lutterman**, also assistant general attorney. **Charles F. Hanson**, attorney, succeeds Mr. Lutterman.

MECHANICAL

F. L. King, formerly mechanical superintendent—Diesel and electric power of the Chicago, Milwaukee, St. Paul & Pacific, has been appointed master mechanic of the Superior and Madison divisions with such other duties as may be assigned, with headquarters as before at Milwaukee, Wis. As noted in *Railway Age* of February 25, page 66, Mr. King was relieved from his previous assignment at his own request. **W. W. Bates**, division master mechanic at Milwaukee, has been given jurisdiction over the first, second and third districts, with headquarters at that point.

C. J. Bodemer, superintendent of machinery, Louisville & Nashville, with headquarters at Louisville, Ky., has retired after 50 years of service. Promoted to succeed Mr. Bodemer is **John F. Ryan**, assistant superintendent of machinery at Louisville. **C. N. Wiggins**, general master mechanic at that point, succeeds Mr. Ryan, and is replaced in turn by **Carl A. Love**, assistant general master mechanic. Mr. Bodemer was born on March 8, 1880, at Cincinnati, Ohio. Following graduation in mechanical engineering from Purdue University in 1900, he entered L. & N. service as a special apprentice in the Covington (Ky.) shops, subsequently being advanced to foreman of the erecting shop at Covington. In 1905 he was transferred to the South Louisville shops, and was later advanced to assistant general foreman of the locomotive shop there. After serving as general foreman at Etowah, Tenn., he returned to South Louisville in the same position, later becoming assistant master mechanic. Mr. Bodemer was transferred to Decatur, Ala., in 1914 as master mechanic and was advanced to assistant superintendent of machinery at Louisville in 1919. He has served as superintendent of machinery at that point since 1928.

J. J. Nicol, general foreman, equipment department, Michigan Central, at Bay City, Mich., has been appointed assistant master mechanic at that point. His former post has been abolished.

OPERATING

J. A. Craddock, superintendent of the Delaware, Lackawanna & Western at Scranton, Pa., has been transferred to the Buffalo division at Buffalo, N. Y., succeeding **C. H. Youst**, who, as superintendent, will be assigned to special duties at New York. **Joseph Kapenos**, trainmaster at Scranton, has been promoted to superintendent of the Scranton division.

The Chicago, Milwaukee, St. Paul & Pacific's Kansas City division between Nahant, Iowa, and Kansas City, Mo., has been made a part of the Dubuque and Illinois division, the headquarters of which are in Savanna, Ill. That part of the Kansas City division between Cedar Rapids, Iowa, and Rutledge has become a part of the Iowa division, the headquarters of which are at Marion, Iowa. **P. J. Weiland**, superintendent of the Kansas City division, has been appointed assistant superintendent of the Dubuque and Illinois division, with headquarters as before at Ottumwa, Iowa.

TRAFFIC

T. P. McCarthy has been appointed general agent of the Grand Trunk Western (part of the Canadian National), at Saginaw, Mich., effective March 20, succeeding **J. L. Cahill**, retired.

J. Pat Casey, traffic representative of the St. Louis, San Francisco & Texas at Fort Worth, Tex., has been promoted to traffic manager at that point, succeed-

ing to the duties of **John E. Steele**, general freight and passenger agent, who has retired after 50 years of railroad service. Born at Denison, Tex., in 1898, Mr. Casey entered railroad service with the Southern Pacific Lines at San Antonio, Tex., at the age of 16. He joined the Frisco in 1920, and in 1940 became traffic representative at Fort Worth.

Mr. Steele was born at Carthage, Mo., on February 2, 1880, and was educated in the public schools at Ford, Kan. He started his railroad career with the Chicago, Rock Island & Pacific at Liberal, Kan., in 1899. Subsequently he served with the Rock Island at Fort Worth, and in September, 1910, joined the Frisco as a soliciting freight agent. With the Frisco Mr. Steele held positions successively as traveling freight and passenger agent, accountant, chief rate clerk, assistant city passenger agent, city passenger agent, commercial agent, division freight agent, general agent and general freight and passenger agent.

Theodore J. Younker has been appointed manager mail, express and baggage traffic of the Baltimore & Ohio at Baltimore, Md., succeeding John P. Dugan, who retired on February 28, after nearly 56 years of service. Mr. Younker was a rate clerk on the staff of the traffic vice-president.

The Burlington Lines has announced the following changes in its traffic department, effective March 1: **H. L. Ford**, freight traffic manager—system, at Chicago, becomes general freight traffic manager in charge of sales and service, a newly created position; **F. J. Conrad**, freight traffic manager, Lines West, at Omaha, Neb., succeeds Mr. Ford, and is replaced in turn by **F. E. Deines**, assistant freight traffic manager at Chicago; **P. L. Smithburg**, general agent at Detroit, Mich., succeeds Mr. Deines; **F. F. Crabbe**, general freight agent at St. Louis, Mo., becomes assistant freight traffic manager at that point, a new position; **S. L. Parker**, general freight agent at Denver, Colo., becomes assistant freight traffic manager at Omaha, also a new position, and is succeeded by **V. G. Wright**, assistant general freight agent at Denver; **J. D. Rezner, Jr.**, assistant to vice-president—traffic at Chicago, succeeds Mr. Wright; **L. M. Jones**, general agent at Pittsburgh, Pa., replaces Mr. Smithburg, and is succeeded in turn by **C. O. Warrell**, general agent at Memphis, Tenn.; **S. M. Graham**, commercial agent at Mobile, Ala., succeeds Mr. Warrell; **F. L. Taylor**, general livestock agent at Omaha, replaces Mr. Crabbe, and is succeeded in turn by **R. C. Burke**, assistant general livestock agent at Chicago; **Harold A. Leopold** succeeds Mr. Burke; **C. E. Carlson**, assistant general freight agent at Kansas City, Mo., becomes general freight agent at that point, a new position, with jurisdiction over Atchison, Kan., Leavenworth and St. Joseph, Mo., traffic offices; **J. A. Leary**, assistant general freight agent at St. Paul, Minn., becomes general freight agent there, a new post, with jurisdiction over the Twin Cities and Winnipeg (Man.) traffic offices; **C. J. Nelson**, fuel traffic manager at Chicago, becomes general fuel traffic manager at that point, a new position, and is succeeded by **J. R. Grimes**, assistant fuel traffic manager at Chicago; and **W. F. Radell**, assistant general freight agent at Omaha, assumes the new position of general freight agent—rates, at that point. **J. J. McGarry**, general freight agent of the Colorado & Southern at Denver, has been promoted to general freight traffic manager—sales and service of that road. **L. W. Glover**, assistant freight traffic manager at Denver, becomes general freight agent—rates and divisions at that point. Appointed assistant general freight agent is **H. W. Hotaling**, division clerk. **G. H. Rehm**, freight traffic manager at Denver, has been transferred to Chicago as assistant freight traffic manager—rates and divisions of the Chicago, Burlington & Quincy.

F. Dade Kelley, assistant traffic manager of the Railway Express Agency, has been appointed regional traffic manager for the Eastern departments, with headquarters at New York.

ENGINEERING & SIGNALING

T. A. Blair, chief engineer of the Atchison, Topeka & Santa Fe, Chicago, has been elected also chief engineer of the Illinois Northern, which has been purchased from the International Harvester Company by the Santa Fe, the Chicago, Burlington & Quincy, the Pennsylvania and the New York Central.

J. W. Limbrock, assistant chief engineer of the Pullman Company, has been promoted to chief engineer, succeeding the late **Frank O. Marshall**, whose death was reported in the *Railway Age* of January 21. Mr. Limbrock attended Armour Institute in Chicago, and started service in

J. W. Limbrock

Pullman's engineering department at Pullman Car Works in 1912. Since 1921 he has served as draftsman, mechanical inspector and industrial engineer, and has supervised design and construction of Pullman's laundries throughout the country. He also supervised design and construction of Pullman's shops at Atlanta, Ga., and recently has supervised shop expansion programs at Buffalo, N. Y., Chicago, St. Louis, Mo., Richmond, Cal., and Wilmington, Del. Mr. Limbrock became assistant chief engineer in March, 1948.

C. L. Waterbury, engineer and superintendent of fuel and water service, Chicago, Milwaukee, St. Paul & Pacific, has been appointed supervising engineer, roadway equipment and welding, with headquarters as before at Chicago. His former post has been abolished.

H. W. McLeod, principal assistant engineer, Prairie and Pacific regions, Canadian Pacific, with headquarters at Winnipeg, Man., and **A. J. Wolfe**, supervisor maintenance of way for the same territory, with headquarters at that point also, have retired. **W. G. Dyer**, district engineer of the British Columbia district, succeeds to Mr. McLeod's duties, with the new title of assistant engineer maintenance of way. **G. J. Yorston**, roadmaster at Revelstoke, B. C., succeeds Mr. Wolfe. Promoted to succeed Mr. Dyer is **C. A. Colpitts**, assistant district engineer at Vancouver, B. C., who is succeeded in turn by **K. A. Truman**, division engineer at Medicine Hat, Alta. **William Dunlop**, division engineer at Saskatoon, Sask., succeeds Mr. Truman, and is replaced at Saskatoon by **C. M. Thompson**, roadmaster at Wilkie, Sask.

SPECIAL

Arthur B. Hopper, special auditor of the Canadian National at Montreal, Que., has been appointed superintendent of pensions, succeeding **Evan B. Hawken**, who has been appointed assistant to vice-president, personnel.

Michael F. Clune, assistant superintendent of safety of the Delaware & Hudson, has been appointed superintendent of safety, with headquarters as before at Albany, N. Y., succeeding **John E. Long**, deceased. The position of assistant superintendent of safety has been abolished.

OBITUARY

Frank T. Darrow, who retired as chief engineer of the Chicago, Burlington & Quincy at Chicago in January, 1943, died on February 27 at his home in Riverside, Ill., at the age of 74.

Guy E. Mauldin, 78, who retired on January 1, 1945, as assistant secretary in charge of the archives of the Southern System, died at his home in Washington, D. C., on February 20, after a long illness.

John E. Long, superintendent of safety of the Delaware & Hudson at Albany, N. Y., since 1928, died recently at his home in that city. Mr. Long was a former president of the National Safety Council and a director since 1928.

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TECHNICAL INFORMATION

In this microphone the output voltage is induced in a coil of wire by causing a sound wave to modulate the reluctance of the magnetic circuit. By the control of this reluctance the utmost in quality, stability, and ruggedness is obtained. Without the use of a transformer, the "Ranger" provides the clear reproduction and high output long needed for mobile communications and outdoor public address—*at an amazingly low price!* Frequency response is 100 to 9000 c.p.s. Fits snugly in the palm of the hand. Has heavy-duty single-throw, double-pole leaf-type switch for push-to-talk operation. Switch has phosphor-bronze blades and silver contacts for maximum operating life. Furnished with 7′ three-conductor shielded cable.

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MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
505B	7 ft.	47.0 db below 1 milliwatt per 10 microbar signal	150-250 ohms	1¼ lb.	RUDAY	$25.00
505C	7 ft.	50.5 db below 1 volt per microbar	HIGH	1¼ lb.	RUDAX	$25.00

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GENERAL NEWS

(Continued from page 64)

Coal Famine

the group's annual meeting in Chicago, Ill., in September, 1949.

The first witnesses to appear before the subcommittee at Monday's opening session were representatives of the air carriers, the Civil Aeronautics Administration, and the Civil Aeronautics Board. Chairman Joseph J. O'Connell, Jr., of the C.A.B. was first to take the stand. He discussed regulatory problems encountered by the C.A.B. and expressed the belief that "the markets for which unsubsidized air transportation can successfully compete with surface transportation will expand rapidly in the years ahead." He said the C.A.B. favors separation of "subsidy and compensation elements" in airmail pay and said the long-range future of air transportation is "extremely bright."

D. W. Rentzel, C.A.A. administrator, followed Mr. O'Connell and spelled out in considerable detail the status of air operations. Among other things, he predicted a six per cent increase in 1950 for passenger traffic, and a 15 per cent growth for air freight. He asked that favorable action be taken in Congress on legislation that would increase from 25 per cent to 50 per cent the amount of federal participation in land costs for airport sites. He also recommended passage of a bill, now before the House, to provide for construction of public airports at national parks and recreational areas. He suggested also that the initial step toward making the federal airways self-supporting be made in 1953, with a tax of 1.5 cents per gallon on high-octane gasoline.

Robert Ramspeck, executive vice-president of the Air Transport Association and final witness on air transportation cited figures designed to show the increase in both freight and passenger air traffic since 1945. He said the airlines produced 42 per cent more non-mail revenue in 1949 than in 1946, and that the cost of transporting airmail "dropped 15 cents per ton" in 1949 as compared with 1948. The increasing of revenues has been paralleled by a reduction in expenses since the war, Mr. Ramspeck said, and the air industry "is again taking up the steady progress it was making before the war toward self-sufficiency." He recommended that "no drastic change" be made in policy affecting the airlines, and that nothing be done to disturb the "delicate balance" now prevailing in air transportation.

On Wednesday the subcommittee turned to an examination of the motor carrier situation, and the first witness heard was Commissioner John L. Rogers of the I.C.C. The commissioner opened his remarks with the comment that it is "only partly true" that trucks are regulated by the I.C.C., and illustrated by saying that 21,638 motor carriers hold operating authority from the I.C.C. while 40,000 other carriers, not subject to regulation, transport "exempt" commodities. In addition, he said, there are an esti-

News Department continued on next left-hand page

YOU can't beat Barber Stabilized Trucks for easy riding. These trucks are now available with A.A.R. type frames and bolsters for all spring deflections. Fine *lateral* as well as *vertical* control is obtained with trucks having spring deflections up to $3\frac{13}{16}$".

Over 210,000 sets of Barber Stabilized Trucks have been ordered.

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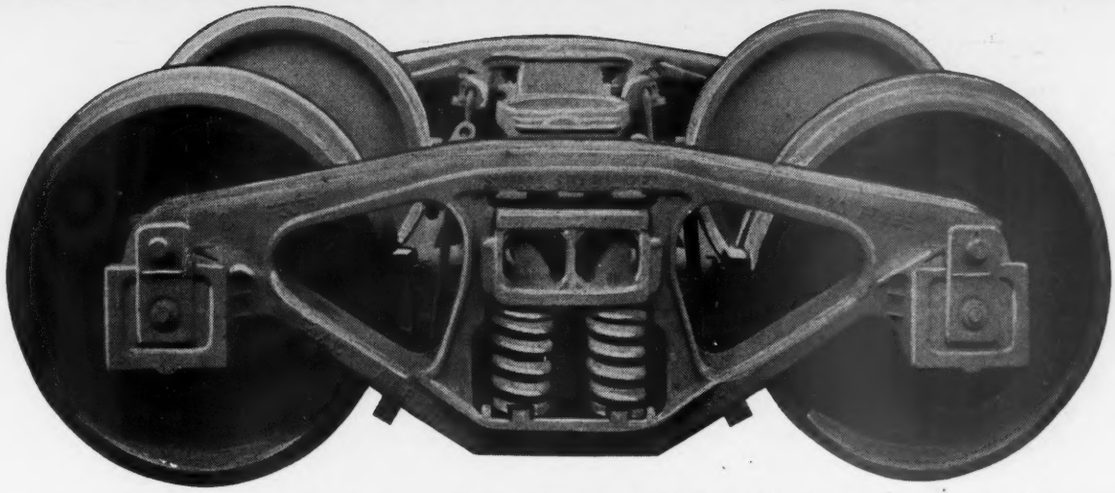

Barber Variable Friction Stabilized Trucks

1 Special Alloy-Iron friction casting having 35 square inches of friction-bearing surface.
2 Spring-steel wear plate securely bolted or welded to the column.
3 Friction-casting-supporting side-spring having a minimum 3/4" initial compression.

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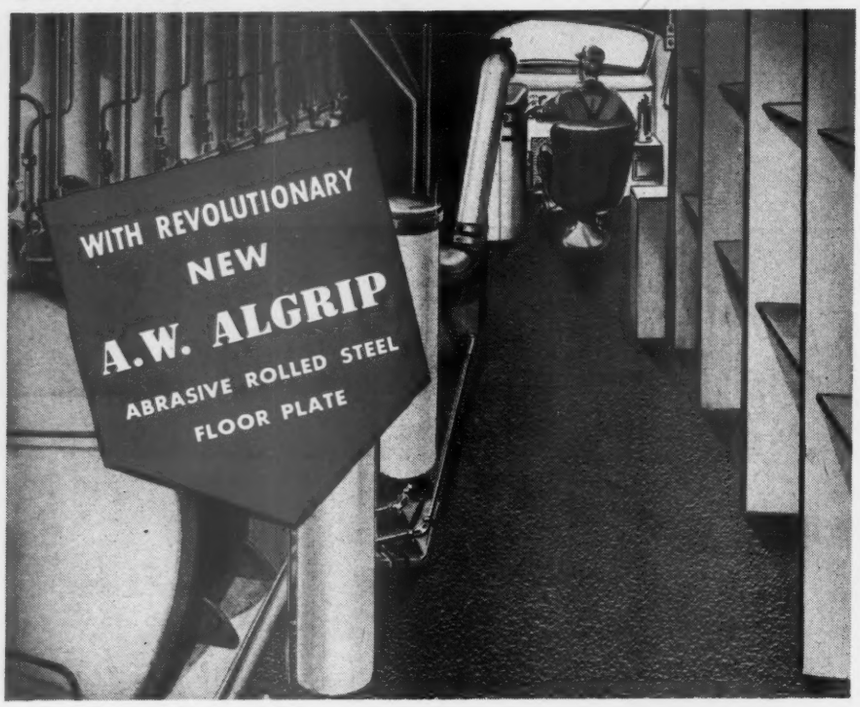

Non-Slip Even on Steep Inclines

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A.W. ALGRIP is made by rolling abrasive grain, the same type used in grinding wheels, as an integral part of the upper portion of steel floor plate. Wet or dry, A.W. ALGRIP prevents slipping, even on steep inclines. It retains its non-slip qualities for a lifetime because as the surface wears new abrasive particles are constantly exposed.

A.W. ALGRIP is ideal for installation on freight and passenger platforms, ramps, walkways, bridges, catwalks, signal towers and on rolling stock. A.W. ALGRIP, unlike other abrasive flooring, is light in weight but high in strength. It stands severe abuse without cracking and is not damaged by heat, fire or heavy traffic.

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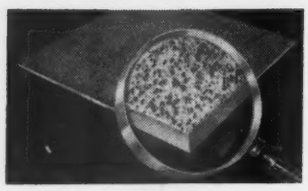

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mated 130,000 private carriers transporting property incidental to their manufacturing or mercantile business.

Later in his testimony the commissioner expressed an opinion that the point is being reached "where grants in operating authority will exceed the country's needs." Figures in Commissioner Rogers' statement had shown that 789 applications for new operating rights, 2,432 applications for additional rights by existing carriers, and 514 applications for transfer of rights are now pending before the commission.

The commissioner also discussed safety regulations of motor carriers and in this connection said "the number of reported accidents continues to increase slightly from year to year," although he attributed this growth in part to more extensive operations and more complete reporting to the I.C.C. "There were 22,478 accidents reported in 1949," he said, "an increase of 5 per cent over 1948 and 20 per cent over 1947." Only those accidents involving death or personal injury or property damage in excess of $100 are reported.

During the discussion following Commissioner Rogers' presentation, Representative Hinshaw, Republican of California, asked about railroad ownership of bus lines and the commissioner replied it was "quite limited." Speaking of rail-truck competition, and its effect on railroad abandonments, Commissioner Rogers said he thought it might have been better for the railroads to have developed truck transportation from the beginning, and thus given the country an integrated transport system, rather than letting private individuals build the motor carrier business and setting up the present competitive situation.

Commissioner Rogers was the final witness at the Wednesday session. During the remainder of the week the subcommittee was scheduled to hear other motor carrier witnesses, a review of the water carrier situation, and presentation by shippers. Commissioner Charles D. Mahaffie of the I.C.C. and T.W.S. Davis, assistant secretary of the Department of Commerce were scheduled to be heard Thursday.

A. H. Schwietert Will Head "Perfect Shipping" Campaign

A. H. Schwietert, traffic director of the Chicago Association of Commerce and Industry, has been selected general chairman of the National Management Committee on perfect shipping for the National Association of Shippers Advisory Boards. He succeeds Irving M. Peters, late traffic manager of the Corn Products Refining Company, whose death was reported in the *Railway Age* of February 4, page 57.

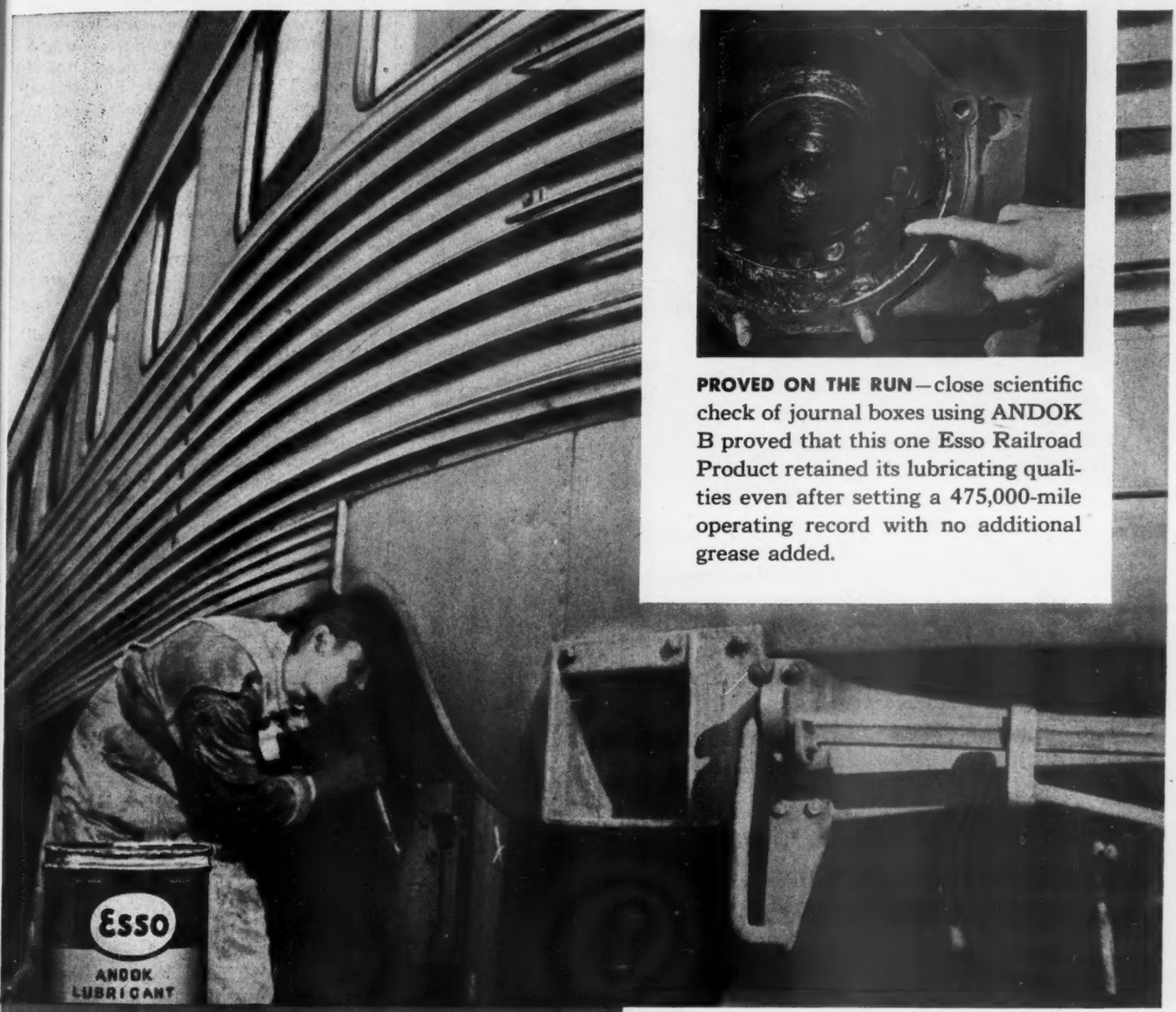
I.C.C. Revises Motor Carrier Classifications

The Interstate Commerce Commission has issued two orders which will modify its classifications of motor carriers by fixing higher annual revenue bases for the groupings. One of the orders applies to common and contract carrier truckers

News Department continued on next left-hand page

Mile after mile

ANDOK LUBRICANTS—made especially for railroad use and triple-proved for trouble-free bearing lubrication in Diesel locomotives and passenger cars under millions of miles of tough railroad operating conditions.



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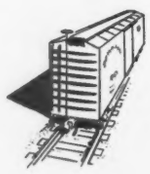

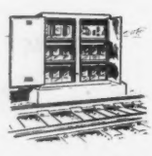

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and the other to common and contract motor carriers of passengers.

Class I carriers in both categories will be those having average gross operating revenues of $200,000 or more annually. Class II carriers will be those with annual gross of $50,000 or more but less than $200,000 and Class III carriers will be those with annual gross less than $50,000. The annual-gross bases in the present classifications are half the foregoing in each case.

The orders stipulated that interested parties may file written statements with respect to the changes on or before March 17 and they may request oral argument. Unless otherwise ordered by the commission, after consideration of objections that may be presented, the modifications will become effective April 1. However, the motor carriers may apply them retroactively to January 1.

Santa Fe to Launch New Kansas City-Chicago "Chief"

The Atchison, Topeka & Santa Fe has announced that, on April 2 it will inaugurate a new Chicago-Kansas City, Mo., train to be known as the "Kansas City Chief": will revive on the "California Limited" the custom of off-train dining made famous by the Harvey System; and will institute other changes affecting the road's Chicago-to-California passenger service.

The new train—to be scheduled for the accommodation of business people—will depart from Kansas City at 10 p.m. daily and arrive in Chicago at 7:45 a.m. the following day. Identical service is to be operated from Chicago to Kansas City. The train is to be Diesel-powered, and will be equipped with lightweight legrest chair cars similar to those in use on the "El Capitan," a lounge snack club car, and four or five lightweight sleeping cars affording all types of Pullman accommodations.

Commenting on the new Harvey System dining service in connection with the "California Limited," R. T. Anderson, general passenger traffic manager, said that many vacationers had requested a more leisurely type of trip through the scenic and picturesque Indian country of New Mexico and Arizona. The departure time from Chicago of the train has been moved up 2 hr. 45 min. to 8:45 p.m., and from Los Angeles, Cal., at 6:30 p.m., 30 min. earlier than the present schedule, and arrive in Chicago at 8:30 a.m., on the third day.

The Harvey House staffs will be expanded at Albuquerque, N. M., Gallup, Winslow, Ariz., Williams and Seligman, where meals will be served to "California Limited" passengers. Some new construction and remodeling of dining rooms, particularly at Seligman, will be undertaken. The change will not affect the "Super Chief," "Chief," "El Capitan" or "Grand Canyon," all of which will maintain their present dining car facilities.

Trains No. 5 and 6, operating between Chicago and Galveston, Tex., will be consolidated with the "California Limited" between Chicago and Newton, Kan. The Galveston section will be cut out at the Kansas point and will proceed to

Oklahoma and Texas points, arriving in Galveston at 9:50 a.m.

Trains No. 1 and 2, operating between Kansas City and La Junta, Colo., will be discontinued. A section of the "Grand Canyon," to be identified as trains No. 123 and 124, will be operated between Kansas City and Los Angeles, via the Northern District. These trains will be equipped with chair cars and sleepers to accommodate all classes of traffic, including Kansas City to Denver, Colo., chair car and sleeper; Denver to Phoenix, Ariz., sleeper; and Chicago to Grand Canyon to Los Angeles, sleeper. This will result in the re-establishment of trains No. 127 and 128 between Dodge City, Colo., and La Junta, serving all local stops between these two points.

Mr. Anderson pointed out that trains No. 123 and 124 will give Santa Fe Patrons on the Northern District through service to and from the Pacific via the Grand Canyon for the first time in many years.

Douglass Quits N.M.B.; Will Run for Governor of Oklahoma

Frank P. Douglass, a member of the National Mediation Board since 1944, has resigned from that position and has become a candidate for the Democratic nomination for governor of Oklahoma. President Truman's acceptance of Judge Douglass' resignation was announced at the White House on March 1.

Cites Need For Stronger Railroads in Event of War

"Although the American railroads are better prepared for an emergency than they ever have been in history, unfortunately they are not making the right amount of progress," according to Senator Johnson, Democrat of Colorado, chairman of the Senate committee on interstate and foreign commerce.

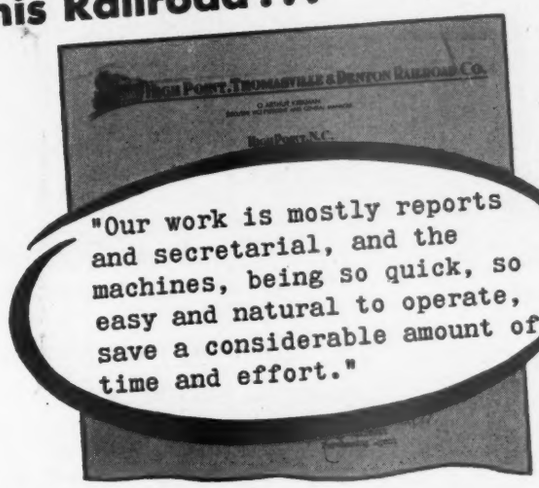
Senator Johnson voiced his concern about railroad preparedness on February 28 on a special television program arranged by the Federation for Railway Progress, American University, and Station WMAL-TV in Washington, D. C. The Colorado legislator headed a panel discussing the subject, "Are Our Railroads Ready for War?"

Other members of the panel were Brigadier General Frank Besson, assistant chief of transportation for operations, U. S. Army; Doris Fleeson, Bell Syndicate columnist; J. J. Kelley, Jr., manager of the Association of American Railroads' Military Transportation Section, and Robert M. Drysdale, Jr., executive vice president of the F.R.P.

"If war were to come we would need more freight cars, more passenger cars, and improvements in every category of railroad operations," Senator Johnson said. "Railroad motive power never was in better condition but our freight cars already are 'war weary' and unfortunately we are not replacing them fast enough. The railroads just don't have the money to do enough."

Mr. Drysdale pointed to 1948 as a year of record prosperity for American

The New Remington Electri-conomy Typewriter Saves Time, Work, Money for this Railroad . . .


"Our work is mostly reports and secretarial, and the machines, being so quick, so easy and natural to operate, save a considerable amount of time and effort."

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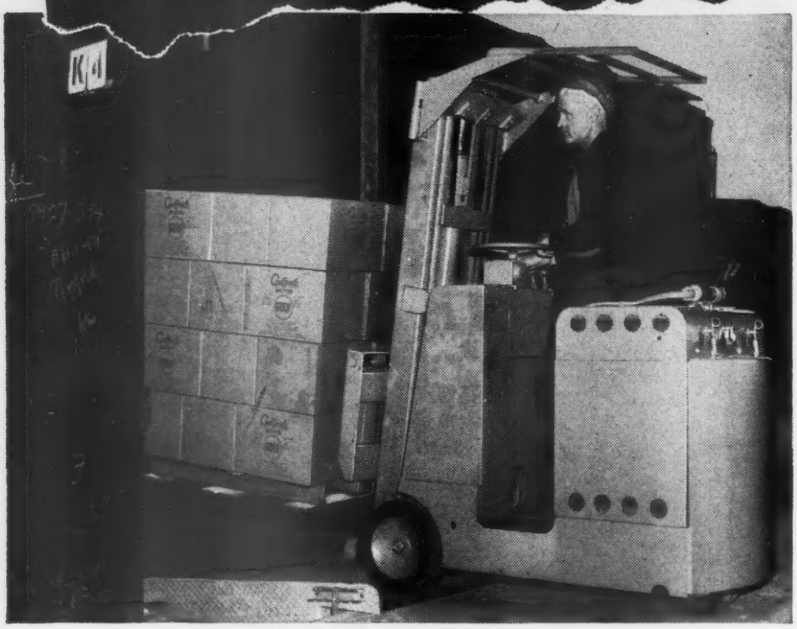
News Department continued on next left-hand page

GULF increases storage space 50%
and cuts car-loading time in half—
with Battery-Electric trucks



Car-loading time was cut in half with pallets and battery-powered trucks.

. . . safety and economy assured in Philadelphia refinery

The Philadelphia Refinery of the Gulf Oil Corporation recently modernized the material-handling operations of its Package Department. The project included installation of a pallet and battery-electric truck system to handle containers of oil products varying from one-quart cans to 55-gallon drums.

Immediately, manual handling operations were reduced, making it possible for the Package Department to handle more tons per man-hour and do so more easily. Battery-electric trucks now tier 55-gallon drums—formerly an almost impossible manual operation—thus increasing the effectiveness of floor space 50% by more efficient utilization of cubic storage space.

Previously freight-car loads of cartons shipped to certain destinations had been loaded manually. Now electric trucks load these palletized cartons and car loading time has been cut in half.

Because handling of flammable materials call for safe flame-free operations, battery-powered trucks of spark-enclosed construction were chosen. The efficient, quiet and dependable performance of these trucks has kept operating costs to a minimum.

This is another example of why cost-probing, safety-conscious management buys battery-electric trucks.

THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION
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industry and added, "in that year the railroad net income remained at the same low level that has prevailed for 25 years. Railroads are not permitted to do business in the normal American way and something will have to be straightened out if they are to be ready for another emergency."

The F.R.P. officer listed "too much regulation and subsidies to rail competitors" as major causes for railroad poverty. He was joined by Mr. Kelley, who asserted, "something should be done to speed up the processes of the Interstate Commerce Commission." Mr. Kelley cited as an example the railroads' petition for an increase in mail pay which has been pending since 1947 and added, "the railroads, in effect, are subsidizing the government." He sounded an optimistic note, however, when he pointed out that "in spite of their meager earnings, the railroads put more new locomotives on the rails last year than in any year in the last 26." Another "encouraging factor" is that the railroads "are the one industry that does not have to convert to a wartime basis," Mr. Kelley declared.

General Besson said that in an emergency the National Military Establishment would "expect the type of service we got from the railroads in the last emergency—superlative. If we see a continuation in the future of the progress achieved in the past, we'll be satisfied. But from the opinions expressed here, I doubt that they can continue to make that kind of progress without higher earnings."

1949 Brought New Freight Train Performance Record

A new high record in operating efficiency, as reflected in freight train performance, was attained by American railroads in 1949, William T. Faricy, President of the Association of American Railroads, announced on March 2. He cited complete reports for last year which showed that more tons of freight were moved more miles per train hour than ever before, and that the number of cars per train and the average speed also were greater than ever before.

Tons of freight moved one mile for each hour of freight train operation averaged 19,023 ton-miles in 1949, compared with the previous high of 18,779 ton-miles in 1948, and 10,580 in 1929. The performance in 1949 was greater by 8 per cent than the wartime record of 17,623 ton-miles per hour in 1944.

The average freight train moved 56.3 cars in 1949, compared with 54.5 cars in 1948 and 53 cars in 1944. Freight trains on the average moved more than 4 per cent faster in 1949 than in 1948, and nearly 8 per cent faster than in 1944.

"This new high record in freight train operating efficiency took place despite a lower volume of traffic in 1949 due, in part, to a reduction in coal shipments," Mr. Faricy pointed out. He added: "It was made possible, however, because of improved operating methods, larger and more efficient locomotives, better freight cars and improved signalling and other devices."

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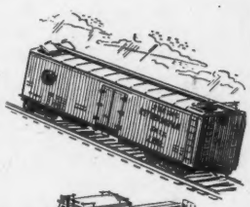

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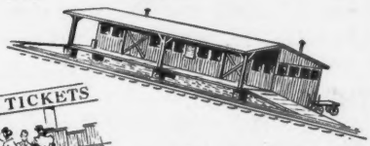

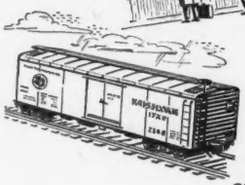

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1—12-Ton, 0-4-0, Diesel-Mechanical, Plymouth
1—10-Ton, 0-4-0, Diesel-Electric, Davenport
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1—Box, 40-Ton, 40' Single Sheathed
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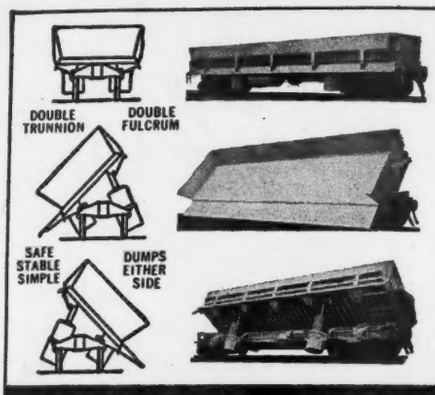

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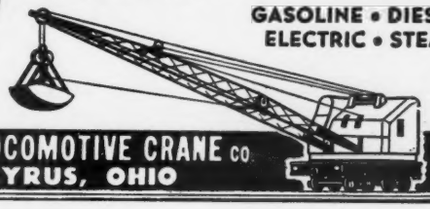

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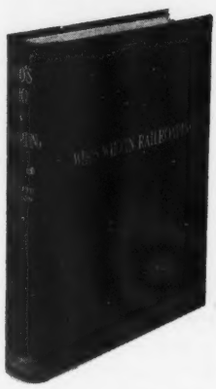

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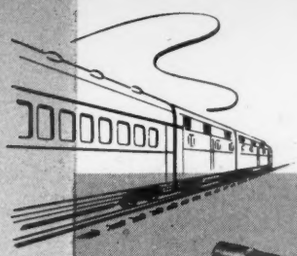

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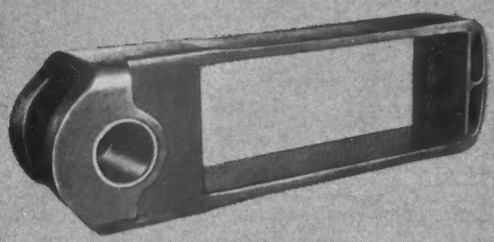
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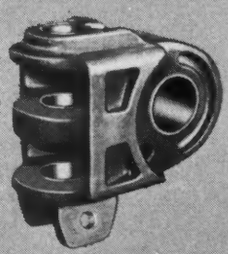
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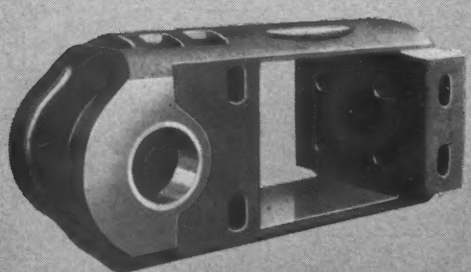
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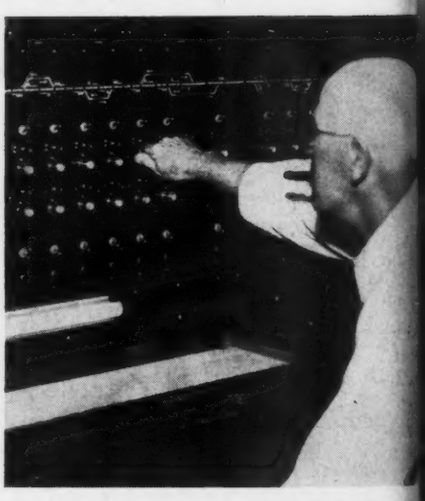

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